THE DEVELOPMENT OF A PROCEDURE FOR EVALUATING OFFICERS IN THE UNITED STATES AIR FORCE

By

Harley O. Preston

American Institute for Research

Pittsburgh 13, Pennsylvania

7 July 1948

AMERICAN INSTITUTE FOR RESEARCH

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FOREWORD

The research study described in this report provides a good example of the type of research and developmental work which the American Institute for Research was established to do. The study was initiated because of an important need within the armed services for accurate information concerning the relative effectiveness of officer personnel. Because of the inadequacy of previous methods of reporting on the fitness, efficiency, and effectiveness of officer personnel, seniority has for years been practically the sole basis for promotions. Ineffective officers were identified very slowly and then because of the lack of precise and definite information they were usually transferred rather than eliminated. Similarly, officers of outstanding promise were sometimes overlooked and given assignments which failed to develop their true potentialities.

The approach of this study was not merely to look at how other organizations handled this problem or to call in a few experts for consultation. A basic research study was initiated to establish the facts as to what really made an effective officer. This study was a cooperative one in which the research staff served as technicians and the basic data were supplied by operating personnel in the U. S. Air Force. In the planning and supervision of the research and development work, the assistance as consultants of some of the best experts in the country was obtained. The study was made sufficiently comprehensive in content and scope to insure that the facts gathered would be established beyond reasonable doubt. Finally the research findings were incorporated into a practical procedure which was given extensive field tryout by operating personnel in all parts of the Air Force. At the conclusion of the study, the new officer evaluation procedure was ready for immediate use throughout the organization.

It is believed that the extension of this type of approach to other personnel problems will make possible a great increase in the efficiency of the use of available personnel and assist individuals to achieve the fullest realization of their potentialities.

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PREFACE

This publication, together with a separate section, Technical Appendices and Notes, comprise a report to the United States Air Force on the development of a procedure for the evaluation of officers. The contents of this section of the report summarize in non-technical language the research and developmental work on this project of the American Institute for Research, Pittsburgh 13, Pennsylvania. The project was carried out under provisions of U. S. Army Contract No. W33-038ac-16462, dated 7 March 1947, and was completed on 7 July 1948.

Most of the staff members and consultants who worked on this officer evaluation project were former officers in the military services. Thus, they were able to combine their professional training with their experiences in evaluating and reporting the efficiency of officers. They were aware, for example, of the impracticality of applying directly to a military organization many of the techniques for the evaluation of personnel which had been successful in non-military organizations. Not that all these techniques were valueless, but it was realized that being an officer was a way of life rather than an economic pursuit which could be considered apart from the personal activities of the individual to be evaluated. The job of an Air Force officer is a twenty-four hour per day association with other military personnel to accomplish organizational, not individual, objectives. This was understood by all who worked on this project, and evaluation of officers as isolated individuals was avoided.

In a project of this size, individual acknowledgment of all persons who contributed is impossible. Many thousands of officers willingly gave their time, ideas, and suggestions to the professional staff. Specific mention should be made of the advice and helpfulness of the former chief of the Officer Selection Division, Major General E. B. Lyon, and the members of the Officer Selection Committee: Brigadier Generals J. K. Gerhart and A. H. Gilkeson, and Colonels C. V. Finter, N. R. Burnett, and S. F. Landers. Also appreciated was the interest shown by General Muir S. Fairchild and officers of the Air University. Finally, the technical advice given by The Air Surgeon, Major General Malcolm C. Grow, and Colonel Otis O. Benson, Jr., Lieutenant Colonel Anthony C. Tucker, and Dr. Glen Finch, of the research division of the Office of The Air Surgeon is gratefully acknowledged.

Throughout the project, continuous professional assistance and guidance was given by the President of the American Institute for Research, Dr. John C. Flanagan, of the University of Pittsburgh, and by members of the Board of Directors of the Institute: Drs. Truman L. Kelley and Phillip J. Rulon, of Harvard University; Dr. Walter R. Miles, of Yale University, and Dr. Robert L. Thorndike, of Columbia University. Appreciation is expressed to Dr. Meredith P. Crawford, of Vanderbilt University, Dr. Frederick B. Davis, of Peabody College for Teachers, Dr. Paul M. Fitts, of the Aero Medical Laboratory at Wright Field, Dayton, Ohio, Dr. Paul Horst, of the University of Washington (Seattle)

and to Miss Geraldine Spaulding, of the Educational Testing Service, for their several contributions as consultants at various stages of the project.

Although all members of the professional staff and many of the clerical and statistical personnel of the American Institute for Research made contributions to this project, specific mention should be made of the individual and collective efforts of those who worked for considerable periods of time on this project. From the professional staff, this includes Misses Dorothy L. Barham and Anne O'Hagan; Mesdames Ruth E. Kerr and Alice S. Preston; and Messrs. Carl J. Lange, John A. Nagay and Ralph F. Wagner. From the clerical and statistical staff, this includes Misses Isabel G. Bothwell, Estella V. McFadden, Patricia Stone; Mrs. Helen K. Ulrich; and Messrs. George O. Luster and Walter C. Dargatz. Special acknowledgment is due Dr. Roger W. Russell, of the University of Pittsburgh for his many contributions as a temporary member of the professional staff during the summer, 1947. The interviewing of officers during that summer by Mr. M. Dean Havron, of the University of Maryland, Mr. Edmond F. Erwin, of Teachers College, Columbia University, and Mr. George Masterton, of Kent State University, was invaluable.

This report is organized according to the order in which the research was done. Chapter I poses the general problem of officer evaluation. Chapters II and III present the techniques and results of the research on the definition of a good Air Force officer. The principles and development of an officer evaluation procedure are discussed in Chapter IV, while the field tryout, revisions and results are presented in Chapter V.

Officer evaluation is too complex a problem to be solved by any single project or procedure. Continuous study and research is needed by many persons. It is hoped, however, that the outcome of this project will be found to have contributed significantly to a final solution of the problem.

1 July 1948

Harley O. Preston
Project Director

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CHAPTER I

THE GENERAL PROBLEM OF OFFICER EVALUATION

Need for Accurate Personnel Information

There is a direct relationship between the increase in the size of an organization and the need for accurate and systematic records on the quantity and quality of its component parts. Unless new methods are instituted for keeping responsible authorities informed on new developments within the organization, it is not long until the old methods not only supply insufficient information for necessary decisions but begin to supply inadequate or false information. This is generally recognized in the field of materiel and supply where it is commonplace to find that a once adequate system of inventory control has broken down under the impact of increased volume. Yet in the field of personnel where the need is even greater for up-to-date estimates of the human resources within an expanding organization, there is often a lag between the need for a more useful system for obtaining this information and the development and adoption of such a system.

The expansion of the United States Air Force from an Air Corps of less than one thousand officers twenty years ago to its present size and status as an independent department has been little short of phenomenal. It is noteworthy that throughout this great expansion considerable encouragement has been given to research and developmental work on a number of personnel problems with gratifying results. The research on the problems of wartime selection and training paid large dividends in valuable time, money, and conservation of human energies. The more recent explorations into personnel management are beginning to bring returns in a more flexible and efficient supervision of personnel. Similarly, the inquiring approach into personnel theory and practice adopted by the Air University and the developmental work now going on in career planning and guidance are demonstrating the soundness of the decision to parallel physical research with social or psychological research whenever possible.

Research and developmental work in personnel reporting systems has kept pace with the growth of the Air Force, however, only in their quantitative aspects. The problem of keeping responsible persons informed on the numerical strength, location, and availability of personnel has been largely solved by the development and adoption of the machine record system of reporting quantitative information. By comparison, the qualitative aspect of personnel reporting has received insufficient attention by research workers. To know speedily and accurately the number and assignments of officers and men in a military force is fundamental for a commander. Knowledge about the quality of that same force is usually of equal importance. Equal precision in both the counting and evaluation of military personnel is impossible, but continuous research on personnel evaluation will progressively reduce the discrepancy between the qualitative and quantitative aspects of personnel reporting.

The research project herein reported deals directly with only a small part of the larger problem of improving evaluation of military personnel. Its restricted objective was to develop a practical way to identify those commissioned officers of probationary status within the expanded Air Force whose quality of performance indicates either very high or very low promise of future success as officers. However, to accomplish this restricted objective much basic research was done which has implications for the solution of the larger problem. Future research on the evaluation of other types of military personnel should benefit by techniques developed on this project for the determination of standards for evaluation and for the systematic application of the accepted standards to individuals within a large military organization.

The Role of the AAF Officer Selection Committee

The initial impetus for this research project and several general specifications for the final evaluation procedure came from the Army Air Forces Officer Selection Committee. This committee was charged with the responsibility for making final recommendations to the Adjutant General for the integration of temporary air force officers into the regular army under Public Law 281. Members of the committee reviewed the personnel files of thousands of officers who had applied for regular commissions to seek corroborating evidence for the predictions of success or failure indicated by the results from special screening tests administered to these applicants.

One of the official records brought under intense scrutiny was the series of past efficiency reports on each applicant. It was found that these all-important and, in many cases, the only official record of officer quality consistently kept on commissioned personnel were highly unreliable. It was reported[1] that adjutants and staff officers almost invariably received higher ratings on their efficiency reports than officers further removed from the commanding officer; that combat officers in tactical organizations received lower ratings than the administrative officers; and that efficiency reports rendered by certain commanding officers were consistently high or consistently low. Not only did such findings complicate the immediate task of the Officer Selection Committee but they raised questions in the minds of the members about the reliability of the then existing efficiency reports as a means to evaluate the newly-integrated officers during their three-year period of probation. Accordingly, they took steps to have research begun immediately on the development of improved methods of officer evaluation which might be used to appraise the quality of performance of probationary officers.

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[1] In a speech by Major General E. B. Lyon, former Chief, Officer Selection Division, to the United States Air Force Personnel Conference, Orlando Air Force Base, Orlando, Florida, on February 19, 1948.

In addition to initiating the request for research work on officer evaluation, the committee offered three suggestions which it felt might be followed in the development of any specific procedure. Since these suggestions were based upon the committee members' experience in officer selection and their discussions of evaluation with large numbers of officers, they were readily incorporated into the list of specifications used on this project to develop a specific officer evaluation procedure.

The first suggestion for any officer evaluation procedure was that it be designed for use within the existing framework of the Air Force. The development of procedures which required that officers be diverted from their principal activities and duties for any great length of time would not be considered practical. The second suggestion was that any procedure be simple and direct for the officers who administer it. While no one appreciated the complexity of the problem of evaluation more than the members of the Officer Selection Committee, they felt that any procedure which tended to confuse or to require complicated analysis by those using it would be either rejected or administered perfunctorily. The third suggestion was that the procedure should result in some sort of numerical score which could be used administratively to identify officers within a given percentage of the top or bottom of a distribution of such scores.

The Role of The Air Surgeon

Research of a psychological nature within the Air Force is done under the supervision of The Air Surgeon. At the time the request was made for professional help to develop new procedures for officer evaluation, the personnel of the Aviation Psychological Program of the Office of The Air Surgeon were all actively engaged in working on other psychological research. In view of the urgency for research to begin on officer evaluation, a contractual agreement was made for the research and developmental work to be done by the American Institute for Research, Pittsburgh, Pennsylvania. The Office of The Air Surgeon was designated as the monitoring agency for the Air Force. Throughout the work on the project, this agency has made substantial contributions to the technical aspects of the project and has also performed a number of non-technical services for the contractor both at Headquarters, USAF, and at the different field installations where research work was conducted.

Specific Research Problems Posed

The commission to develop a practical officer evaluation procedure presented not just one problem for research but several interrelated ones. Although the outcome of the entire project was to be a technique for obtaining an accurate numerical estimate of the worth of individual officers to the United States Air Force, this outcome could only be realized after certain fundamental problems had been solved.

Each of these problems constituted separate inquiries oriented about somewhat distinct research questions, yet all pertinent to the outcome of the project.

The first of these separate inquiries dealt with what is technically known as the criterion problem. In its broadest meaning, a criterion is the accepted standard for judging the value or merit of an object. In this instance, the criterion problem was to find an acceptable answer to the ungrammatical question: What is a good Air Force officer? The next two chapters of this report discuss in detail the search made for an answer and the technique finally developed to solve the criterion problem. It is sufficient here to point out that without a well-defined and delimited standard for judging officers no evaluation procedure, regardless of its form or the ingeniousness of its operation, would have any value as an instrument for comparing the relative worth of officers.

The second major inquiry was centered on the problem of how best to measure the individual officer against the criterion or definition established. In order to make the best possible use of the time allotted to the project, an early decision had to be made on which of several possible forms or types of evaluation procedures would best serve the immediate need of the Air Force for measuring the performance of its probationary officers. But to reach such an important decision, evidence was needed on the operation of each type. A number of experimental types of procedures was developed, and each type was either given a brief preliminary field test at some Air Force installation or critically discussed with experienced officers and expert consultants. From this critical work, there emerged one type of procedure which seemed to have the most promise as a final evaluation procedure. Once the general type of procedure had been decided upon, the actual development of its tentative forms could proceed.

Answers to a number of related questions were necessary for a solution to the third general problem implicit in this research. This problem was one of ascertaining the general practicability of the developed procedure under actual field conditions. Will the procedure work on a large scale? What will be the reaction of the officers using the procedure? What difficulties will be encountered and what suggestions will be made for improvement? Will the assumptions of measurement upon which the procedure is based be supported by a statistical analysis of the results? These and other questions could be answered only by an extensive field tryout of the tentative forms under conditions as nearly like those which would prevail if the procedure were adopted as the usual method of officer evaluation. Accordingly, arrangements were made within all the major continental commands of the Air Force for an extensive tryout of the tentative forms of the procedure. In addition to having a large number of evaluating officers use the procedure, a systematic poll was conducted among these officers to obtain their criticisms, reactions, and suggestions.

The fourth and last problem concerned the extent of the revisions which might be made in light of the findings from the extensive field tryout. No research worker is ever satisfied with his solution to this problem since from his point-of-view information for improvement is never complete. Practical considerations, however, made it necessary to limit work on revisions to an organization of evidence for and against possible revisions in the tentative forms. Two basic sources were studied for this evidence: the statistical results of the tryout, and the reactions and suggestions obtained from the officers who tested the tentative forms. While standard conventions were followed in appraising the statistical results, less rigid methods had to be followed in appraising the diverse suggestions. First, every suggestion was classified according to the specific idea expressed. Then the resulting classification was carefully studied in terms of the statistical findings and the general principles and purposes of officer evaluation. As a result, a number of suggestions for revision of the tentative forms was obtained. Some of the suggestions could be used in any immediate revision while others needed verification by future research before they could be considered.[2]

The remainder of this report is taken up with the solution of these four major problems. Specific hypotheses on these and supplementary research problems are stated and discussed in appropriate places throughout the report. Technical discussions and footnotes have been purposely held to a minimum. Interested readers are referred to the Technical Appendices and Notes of this report for such information.

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[2]All comments and suggestions were placed on file in the Office of The Air Surgeon, Washington 25, D. C., for further reference by the Air Force.

CHAPTER II

AN APPROACH TO THE DEFINITION OF A GOOD OFFICER

Introduction

In almost every serious evaluation some kind of a standard is used with which to compare or contrast the thing or person evaluated. Frequently this standard is an entirely personal one based upon the past experiences and the present attitudes of the individual making the evaluation. This is especially true if that evaluation happens to be of another person engaged in the same activity as the one who is making the evaluation. Such a situation is presented in the military services where officers are required to make official evaluations of how well other officers perform. The tendency is for the officer making the evaluation to define the activity or job as he conceives of it personally and to judge the performances of others on that job accordingly. The statement made frequently by experienced officers that efficiency reports tell more about the officer making them than about the officers reported upon is testimony for this tendency.

The first major objective of this research on officer evaluation became, therefore, an acceptable definition of a "good Air Force officer" which could serve as a common standard for the evaluation of all officers. Preliminary studies of both the literature on military leadership and the list of traits suggested by a number of high ranking officers emphasized the need of an entirely new approach to the problem of definition. Also, on the basis of these studies, it was concluded that any definition of a good Air Force officer must possess the following important characteristics if it were to serve as a usable standard for officer evaluation. First, it should pertain to the specialized job which an officer must perform in the complex Air Force of today. Traditional ideas about what an officer does could not be accepted without first investigating whether or not they applied to present conditions. Secondly, the definition should be stated in terms of what a good officer does rather than in terms of what qualities a good officer possesses. Courage, force, and intelligence, regardless of how important they might be as qualities of a good officer, cannot be observed directly but must be inferred from what is seen. Unfortunately for purposes of reliable evaluation, all rating or evaluating officers are not equally apt in drawing correct inferences of such qualities. By defining the good officer in terms of his behavior--what he does--the necessity for such inferences is reduced.

The approach and techniques followed in arriving at a definition believed to be both relevant to the present job of an Air Force officer and stated in terms not easily misinterpreted are described in the sections of this chapter. They are preceded by brief summaries of the findings in preliminary studies of the literature and of the "ideal" personal trait approach.

Findings in the Literature

A considerable body of literature both technical and non-technical exists on the general topic of officer quality and officer evaluation. The first undertaking on this project was, therefore, to conduct a survey of this literature for the general orientation of the research workers, for methods and techniques of research which might be used on the project, and for specific suggestions regarding elements which might be included in a definition of a good officer.

The first purpose of the survey, general orientation, was accomplished. It was discovered that, with rare exception, the problem of officer quality and evaluation has been considered in terms of leaders and leadership. In the numerous non-empirical studies, consisting mainly of pamphlets, brochures, and manuals, the conclusion reached by the authors was almost invariably that leaders possess leadership. The few attempts to break away from such a circular and uninformative conclusion consisted of personal speculation on the nature of leadership by the authors. As Jenkins[1] concludes, "the main item of value that can be derived from speculative reports on leadership appears to be an interpretation of various military regulations which pertain to problems of leading in military situations." The more empirical studies were likewise instructive as orientation of the research worker but almost equally unproductive of conclusions which could be used directly on the project. In a number of studies, the statistical relationships shown between leadership and other broad and vague traits were questionable. In others, such as certain officer selection studies, no adequate follow-up study had been made on the success or failure of those selected in order to verify the original methods of selection. Further, many studies while indicating traits which leaders were thought to possess failed to show that these same traits were not possessed equally by non-leaders.

The second purpose of the survey was more rewarding in that several promising methods and techniques were found. One incompleted wartime study on combat leadership[2] in particular suggested both an approach and a partially developed technique which were used with modifications on this project: the critical requirement approach and the critical incident technique. Also the contrasting results of the more careful studies on the military aptitude ratings of cadets, efficiency reports rendered during training periods, and naval reports (ratings) on officer fitness indicated the possibility of obtaining more reliable ratings when observations of the individuals being rated were conducted

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[1]William O. Jenkins, "A Review of Leadership Studies with Particular Reference to Military Problems." Psychological Bulletin 44:54-79, January, 1947.

[2]Army Air Forces Aviation Psychology Program Research Reports, "Psychological Research on Problems of Redistribution, Report No. 14," Ch. 3, pp. 30-68.

in some systematic way and confined to items of specific behavior.[3]

Little of definite use was achieved with respect to the third purpose of this survey to discover elements for a definition of a good officer which could be used to evaluate present day personnel. As noted above, most of the traits used in the more empirical studies of leadership were either too vague or unverifiable for inclusion in an evaluation procedure. Most of the virtues and a number of the vices of mankind were mentioned as qualities of a good officer one time or another by speculative authors and biographers. Undoubtedly, all the necessary elements for an adequate definition were mentioned somewhere in this extensive literature; the problem of abstracting them, however, was not solved.

Ideal Personal Trait Approach

The traditional approach to officer evaluation has been through the agreement of responsible authorities on the personal traits which ideally every officer should possess. By defining an "ideal officer," the standard for all other officers was presumably set and the problem of measuring the individual against the ideal was a technical matter. As simple and straightforward as this approach seems, a preliminary investigation showed that it was not only deceptively complicated, but that its use would involve all of the field investigation of a direct job analysis, plus a number of questionable inferences unnecessary in the approach finally used.

For a preliminary investigation of this ideal personal trait approach, the cooperation of the Air University was obtained. During the early months of 1947, a series of seminars was held on the subject, "Qualities of an Ideal Air Force Officer." By accepting the outcome of this seminar as authoritative, the problem of obtaining agreement among a large number of senior officers on such qualities was avoided, and the first step of the approach was considered completed. The outcome of these seminars was a list of nine major personal traits with thirty-eight modifying or sub-traits. The major traits were: integrity of character, professional skill, energy, emotional stability, foresight and judgment, humaneness, executive ability, cooperation, and initiative. Few officers would disagree with any of these ideal traits in their abstract form, although some might suggest additional ones.

Since, however, these traits were ideal, the next necessary step in this approach was to determine what "amount" of each would be the acceptable minimum for any officer since very few could be expected to meet the "ideal" completely. Here is where this approach ceased to be simple and straightforward. To determine minimum acceptable standards required that they be translated into the ways of acting assumed to be

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[3]The interested reader is referred to Technical Appendices and Notes, Appendix A, Report No. 1, for a review of these and other studies found in the literature.

related to the abstract traits. It should be pointed out that this difficult and inferential translation of personal traits into behavioral terms is a prerequisite for the decision on minimum acceptable standards and not the decision itself. For responsible authorities to make a realistic decision on what behavior should be accepted as minimal, information would be needed on what in actual practice was "acceptable" at the present time. Only an intense survey approximating an indirect job analysis would supply this information since "acceptable" and "unacceptable" are determined in actuality by the demands of the job and the ability of individuals to meet those demands.

A direct analysis of the job of an Air Force officer in terms of job requirements seemed a better approach for the definitive phase of this project.

The Critical Requirement Approach

The critical requirement approach, developed initially during the war in the Army Air Forces Aviation Psychology Program,[4] was followed in arriving at a definition of a good Air Force officer for purposes of officer evaluation. This approach resembled grossly the more usual approaches of job description and job analysis in that detailed descriptions of the job and the job requirements were made. It differed from these approaches, however, in that stress was laid upon the discovery of those job requirements which were critical in the sense that they had proved to have been the determining factors in the successful or unsuccessful participation of a significant number of individuals on that specific job.

Job requirements are those specific characteristics of individuals which have been established as necessary for satisfactory performance on the job. Aside from the established legal and physical requirements, they consist of the proficiencies, attitudes, abilities and habits which have been found necessary for an individual to possess in order for him to fill the job successfully. The usual job analysis of any of the simpler jobs in our industrial society yields an extensive list of such requirements. To select new personnel or to evaluate present personnel on all the numerous requirements of a more complex job is impossible. For these purposes the practical procedure is to select from among all the job requirements only those which are the most important. But what constitutes the important and the unimportant? It is at this crucial point that the difference between the critical requirement approach and other job analysis approaches becomes most evident.

The usual solution to the problem of the relative importance

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[4] Army Air Forces Aviation Psychology Program Research Reports, "The Aviation Psychology Program in the Army Air Forces, Report No. 1," pp. 252, 272-5.

of job requirements is through the judgment of experts, often "top management," but frequently psychologists or other types of specialists. The critical requirement approach uses experts also, but they are primarily those most intimately acquainted with the particulars of the job itself--in the present inquiry, the officers at various installations of the Air Force. These officers continually judge the success or failure of other officers, not on formal reports of efficiency, but in their appraisals of the abilities and capacities of individual officers to perform effectively on specific missions, projects, or daily assignments which are but parts of the total job of an officer. These appraisals are made upon both a knowledge of particular assignments and what behavior "it takes" to fill them successfully. In effect, they are judgments of which, of a long list of possible requirements of the job of an Air Force officer, are the important ones and what ways of acting will meet such requirements in an acceptable manner. They are not general opinions given in response to questions by an outsider, but concrete decisions made when confronted with the demands of a task to be done and the effective or ineffective performance of another officer while doing that task.

It was these decisions of officers and the kinds of behavior which they judged as effective or ineffective in other officers which constituted the basic data for the critical requirement approach as used on this project. They showed what in actuality were the important job requirements of an Air Force officer and what behavior was considered effective enough to meet these requirements. These many different effective and ineffective ways of acting were classified and summarized into brief statements which described what effective officers do or how they act. These statements were called critical requirements of an Air Force officer.

Thus through this approach, the good officer became defined as the one who effectively fulfills the important requirements of the job; the one who meets the critical requirements of an Air Force officer. By this approach the emphasis was shifted from qualities of goodness to specific ways of acting which were effective.

The Critical Incident Technique

As stated above, the critical requirements were based on an analysis and classification of the behavior which officers considered either effective or ineffective to meet the demands of the regularly assigned duties in the Air Force of today. In order to make such an analysis and classification, a larger "sample" of effective and ineffective officer behavior was necessary than could be obtained by either a study of the records of reclassification proceedings and courts-martial or from on-the-job observations of officers for a limited time by trained investigators. The best potential source for this "sample" was, of course, the officers themselves to obtain their direct experience. Some technique, however, was needed to reduce the amount of opinion, inaccuracies in memory, and exaggeration of statement

which seemed to result in interviews held on this subject with many officers. The critical incident technique, so named because of the type of information it elicited, was developed to meet this need.

This technique first focused the attention of the officers interviewed on some specific situation in which they had judged the effectiveness of another officer and then on the specific behavior which they had seen. By the use of a sequence of specially phrased questions, the investigator was able to record detailed descriptions of how some officer had acted in a particular job situation which caused him to be judged by other officers as effective or ineffective in that situation. The key questions of the critical incident technique could be answered acceptably only by citing concrete incidents or episodes of behavior which had been observed directly by the officer interviewed. Interpretations of why a certain officer behaved effectively or ineffectively were not requested, and general conclusions on what makes officers effective or ineffective were not obtained.

Both the phrasing and sequence of the questions were field tested prior to their use in this technique. It was found that the most detailed incidents of ineffective and effective behavior were obtained when the officer was questioned first about his experience with ineffective officers and then about his experience with effective ones. Also, preliminary testing showed that the most specific incidents of ineffective behavior were given when the officer's attention was focused on some recent decision he had made on the transfer or reassignment of officer personnel. With respect to effective behavior, it was found that the most specific accounts were obtained when the officer was asked to illustrate his choice of an effective officer by giving an incident in which he had observed this officer exhibit exceptionally effective behavior. The questions and sequence finally used in the critical incident technique are given below. A complete discussion of these questions and the way they were introduced in interviews is presented elsewhere.[5]

The questions used to obtain incidents of ineffective officer behavior were: (1) In the last six months, have you asked to have an officer transferred?[6] (2) This officer probably did a lot of things that caused you to make this decision to have him transferred, but what was the final thing he did to make you act, i.e., the last straw? (3) What was this officer's assigned duty?

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[5] Technical Appendices and Notes, Appendix B, "Manual for Interviewers."

[6] It was found that "transferred" was understood better by more officers than the more correct term "reassigned."

(4) What was his relationship to you? (5) What was this officer's grade? (6) What was this officer's age at the time? (7) What was your grade at the time?

Since certain officers were not in a position to have an officer reassigned, substitute or alternative questions were needed for the first and second questions when the response to the original question was in the negative. These alternate questions were: (1) In the last six months, have you known an officer who you believed should have been transferred because of the way he did his job? (2) This officer probably did a lot of things that caused you to feel this way, but what was the final thing that influenced you, i.e., the last straw? As can be seen readily, question one (or its alternate) served to set in the mind of the officer the specific time, place, and person involved; while question two (or its alternate) called forth the incident in terms of how an officer had acted. The other questions contributed little to the incident itself; some served the interviewer as checks on the officer's power to recall exact details of the incident while others served as checks on obtaining too many incidents from officers of the same grade and type of duty assignment. Two incidents of ineffective behavior are given as examples of the kind of incidents obtained in response to question two.

> This officer (a Lt.) was instructed to land his P-80 on runway 15. He pedaled on the right runway but lined up to land on runway 9. He was told to go around and line up and land on runway 15 again. This time he overshot and had to go around. He was getting dangerously low on fuel so I personally talked him around the pattern, putting him on his down-wind leg, and instructed him when to turn on base. I asked him if he had runway 15 spotted and he said "Roger." After acknowledging, he flew right by runway 15 and almost "spun-in" trying to turn in on runway 9. Being low on fuel, I told him to go ahead and land. He came in hot and ran off the end of the runway.

> A rated officer (a Maj.) who had risen to a majority was performing the duty of club officer at a base at the time of my assumption of command. He appeared to have above average capabilities in operating a mess--an excellent one. However, too much attention was paid to high ranking officers and civilian guests. Very little was paid to the average company grade officer, and the club was losing money regularly although the assets of the club were excessive and sufficient to keep the club out of the red for some little time. I instructed him to operate the club for the benefit of officers exclusively and to put the club on a paying basis. Although the former was accomplished in far less splendor than previously, the latter showed no appreciable change. Since his job had always been that of club officer and since

his promotions had been made in that capacity and his efficiency ratings were accordingly superior, I inquired into the situation to find that his knowledge of personnel management was below average and his knowledge of bookkeeping nil.

The questions used to obtain incidents of effective officer behavior were: (1) From among the officers you worked closely with in your last assignment, I would like you to think of the one officer whom you would rank first in the group as having done his assigned job the best. . .Undoubtedly the officer you ranked first was chosen because of many things you have seen him do in a superior manner. However, I would like you to tell me about something specific he did that makes him stand out in your mind as a good officer in his job. (2) What was this officer's assigned duty? (3) What was his relationship to you? (4) What was this officer's grade? (5) What was this officer's age at the time? (6) What was your grade at the time?

It would have been desirable to have had the incidents of effective behavior related to some objective event, corresponding to officer reassignment in the ineffective sequence. Promotions, official commendations, and awards were all tried experimentally, but it was found that a great many officers considered them unreliable signs of effectiveness. The central question adopted did not permit the officer to choose any officer he wished in order to illustrate effective behavior but confined him to one officer with whom he had worked closely on his last assignment. Two incidents of effective behavior are given as examples of the kind of incidents obtained in interviews with these questions:

The officer in mind (a Lt.) has been a long while under my direct supervision. His reaction to orders is an almost striking example of that one has read about in military manuals--yet he is not an "eager-beaver" or "boot-licker." He has been assigned various tasks that call for dealings with superior officers of general rank. Though physically self-conscious, he hasn't allowed this to bring comment upon being assigned these not too colorful tasks. Normally, he has operated in a routine that calls for tact as well as resourcefulness. In meeting and acting as a pilot for general officers he has brought favorable comment upon himself through the accomplishment of the mission. One specific case was when, through no fault of his own, an aircraft was allowed to depart without a retired Major General on board. Immediately upon being confronted by the general--a rather crusty old bird--he, without calling on me or any other superior, arranged for his departure to the original destination in time to overtake his original

aircraft.[7]

> This officer (a Capt.) was in charge of a Base Service Section and had one of the hardest jobs on the base. One of the many activities under his section was the Officer's Club--always a headache, and especially when the club officer was no good. This particular club was losing money, service was terrible and the place continually looked dirty and unkempt. In addition the chef and the civilian manager (a woman) feuded from dawn to dusk and the club officer was afraid of the club manager. The Base Service Officer realized that he must take action immediately so he went over to the club and called each of the key people in separately and explained in detail what their duties were and what he expected them to do and how. Then he called them all together and gave them a lecture on tact, cooperation and service. This took care of the personnel angle, so he spent the next three weeks (after his normal duty hours) re-organizing the club's stock control system, purchasing system and many other small club activities. At the end of that three-week period, the club had improved so greatly that the amount of business had nearly doubled.

An attempt was made to get five incidents from each officer interviewed: three of ineffective ways of acting and two of effective. This was done by repeating the two sequences of questions with slight changes in those questions which established the time of the incident in the officer's experience. In the effective sequence, the phrase "in your next to the last assignment" was substituted for "in your last assignment." Often, however, no change was necessary to receive three ineffective incidents since a number of officers could relate three incidents of officer reassignment within the six-month period. If this proved not to be the case, the officer was permitted to go back by successive six-month periods until, in the judgment of the interviewer, the officer was unable to recall clearly the details of an incident. All the interviewers on this project were graduate psychologists who had been indoctrinated in the critical incident technique and in the types of incidents which would be acceptable for further analysis.

The critical incident technique was used in two different types of interviews: an individual interview in which one officer

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[7]It will be noted that the officer interviewed gave an incident about another officer with whom he worked at the time of the interview rather than one from his "last" assignment. Officers were seldom asked about the behavior of officers they worked with on their present assignment. It was common, however, for them to consider their present assignment rather than their last assignment in choosing an effective officer. Such a choice was accepted by the interviewer without comment.

responded orally to the questions while the interviewer recorded the answers in a notebook; and, in a group interview in which three to seven officers wrote their incidents in booklets after a brief explanation of the procedure had been given them by the interviewer. A study[8] of the results from these two types of interviews showed that the group interview accomplished the work of the individual interview in one-fourth the interviewer's time and with the same general proportion of acceptable critical incidents per officer interviewed.

Scope of the Interviewing

Individual or group interviews were held with a total of 640 officers during the summer months of 1947. These interviews took place at sixteen locations in the United States. At any one location, officers from all the different organizations were interviewed. A total of 3,029 incidents were obtained for analysis, 1,228 incidents of effective behavior and 1,801 incidents of ineffective behavior. The temporary grades held by the officers interviewed covered the range from Lieutenant to General with by far the greatest number concentrated in the grades of Major, Lieutenant Colonel, and Colonel. Only a little over 10% of the officers interviewed were company grade officers. Experience during the first few days of interviewing showed that, on the average, lieutenants and captains could relate fewer incidents of ineffective behavior in which they had been direct observers than could the higher ranking officers. Since only a limited amount of time of the project could be spent on the collection of incidents, the interviews were concentrated among field grade and senior officers. At some of the smaller bases, captains were found filling key positions ordinarily held by officers of higher rank. These captains were always interviewed. Figure I (following page) shows the percentage of officers by their grade at the time they were interviewed. Only three general officers were interviewed with the critical incident technique since most such officers had had little opportunity recently to observe in detail the on-the-job performance of many officers. Because of their great experience in officer evaluation, general officers were usually interviewed for their opinions and suggestions on specific types of evaluation procedures which might be developed. Many of these suggestions proved helpful in the later stages of the project.

The officers interviewed were predominately regular Air Force officers. A few ORC officers on active duty and AUS officers were included, but the attempt was made to interview only those officers who held commissions in the regular Air Force. Figure II (following page) shows the percentage of the officers interviewed by the component in which they held their commissions.

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[8]Ralph Wagner, "A Group Situation Compared with Individual Interviews for Securing Personnel Information." Personnel Psychology 1:93-107, Spring, 1948.

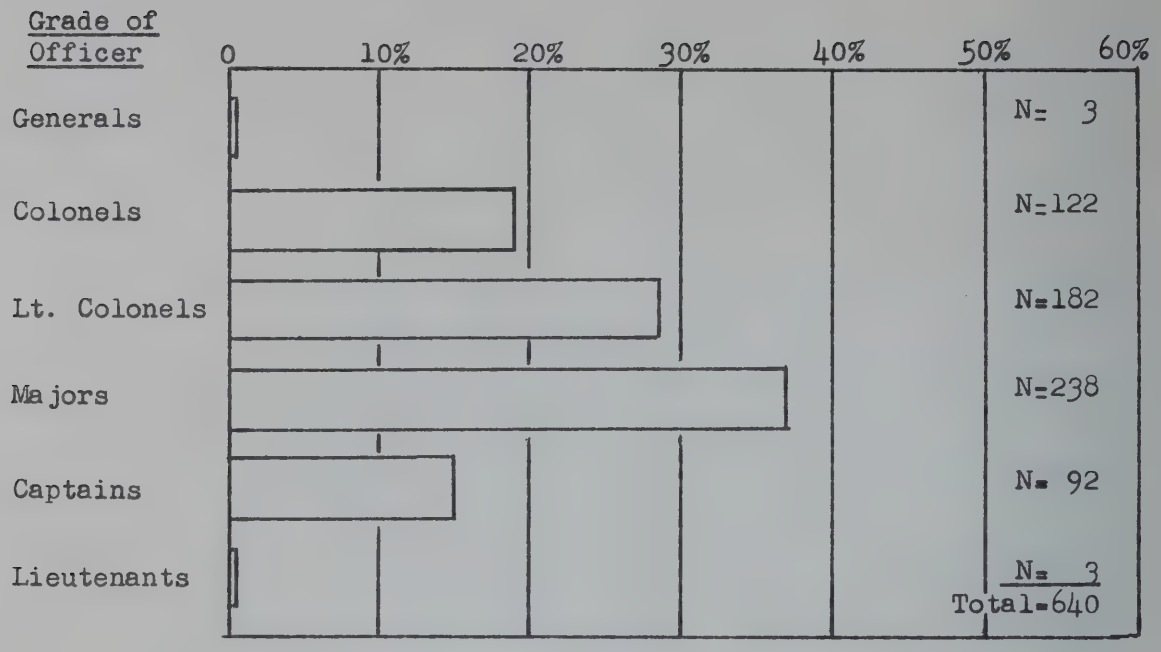

FIGURE I. PERCENTAGE OF GRADES OF OFFICERS INTERVIEWED FOR CRITICAL INCIDENTS DURING SUMMER, 1947

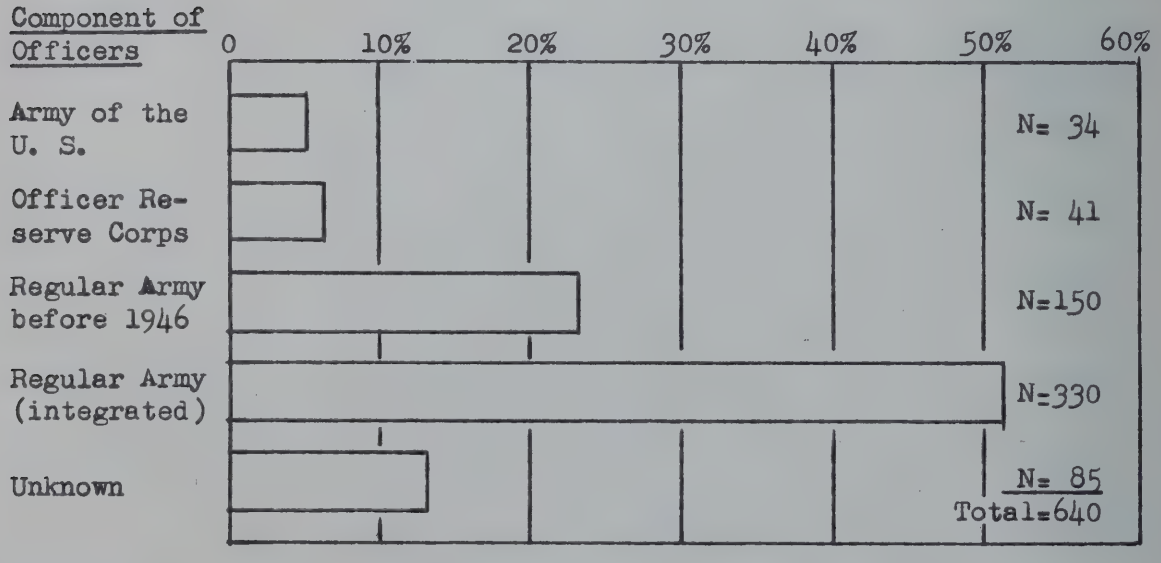

FIGURE II. PERCENTAGE IN DIFFERENT COMPONENTS OF OFFICERS INTERVIEWS FOR CRITICAL INCIDENTS DURING SUMMER, 1947

Of some interest was the relation of military rank between the officer who gave an incident of effective behavior and the officer he chose as an effective officer. In 37% of the cases, the officer chosen as effective was subordinate to the officer making the choice. Officers chose their equals in 18% of the cases. Superiors were chosen in 45%. Because of the nature of the key question asked in obtaining incidents of ineffective behavior, little or no choice was permitted the officer interviewed in his selection of an ineffective officer. He was required to give an incident in which he had had an officer transferred because of the way that officer had acted. It was only in answer to the alternative question about an officer who, in the opinion of the interviewee, should have been transferred that the ineffective behavior of a superior officer might be described by a subordinate. Thus, only 11% of the incidents of ineffective behavior were about officers superior in grade to the one interviewed while 72% of them involved subordinates and 17% were about an officer of equal grade.

The interviewing program continued until a study of the incidents being obtained showed that additional interviews would only result in a repeating of the same kinds of effective and ineffective ways of acting in different situations. The 640 interviews seemed to cover most of the different kinds of officer behavior which occur frequently in the Air Force. Additional interviews might have added a few new kinds but they would have been ways of behaving which occur only rarely. The next step in the approach was to analyze these incidents of effective and ineffective ways of acting into critical requirements of an Air Force officer.

CHAPTER III

CRITICAL REQUIREMENTS OF AN AIR FORCE OFFICER

Introduction

A definition of a good officer in terms of the critical requirements is one who is effective in doing the important parts of the job of an Air Force officer. Since the critical requirements describe the effective way of acting in situations where a number of officers have failed, the officer who meets these requirements will be an effective one. What those critical requirements are and the exact way in which they were found will be discussed in this chapter. But before this discussion, it might be well to consider the meaning of such a definition as a basis for evaluating officers.

First, a good officer must be able to show that he is effective in coping with those tasks and assignments which have caused other officers the most difficulty. By evaluating an officer on his effectiveness in accomplishing critical tasks, a safeguard is set up against evaluations based upon mere activity or upon a pleasant personality. Being pleasant or energetic does not necessarily mean being effective although they may contribute a great deal to effectiveness in many situations. On an evaluation form, based on the critical requirements, some credit would be given an officer for both his continuous application to his assignments and for his pleasant manners since a number of officers have failed in the past because of the way they neglected their assigned work or because of unpleasant manners. Much more credit would be given, however, when this energetic activity and pleasant manner produced results in accomplishing an important mission of the organization and the Air Force.

Secondly, the evaluation of any officer by such a definition could be made in two ways: on the number of critical requirements he meets and on how well he meets each one of them separately. This two "dimensional" evaluation is important for the reporting of the effectiveness of both junior and senior officers on the same type of evaluation form. The critical requirements cover the entire job of an officer in the Air Force and hence include a number of things on which junior officers have little opportunity to show their effectiveness. Senior officers, however, would be expected to have ample opportunity. By defining a good officer in terms of a number of different job requirements, it becomes possible to consider the ratio between what an officer did during a period of time and what he had an opportunity to do during that same period. A junior officer who in his work met a large number of the requirements expected only of a more senior officer would be given credit for this. On the other hand, a junior officer whose assigned duties gave no indication of how well he could meet the requirements expected of senior officers would not be penalized.

Thirdly, this definition enables an officer to study the

exact ways by which he may increase his value to the Air Force. It is of little use to an officer to know that he will better his "efficiency report" if he shows better leadership, more force, or greater initiative if he does not know what he must do to be rated "superior" on these qualities. The critical requirements tell what a good officer does, and they can be used by a conscientious officer as guides to improve his performance.

In view of the importance of the critical requirements, both the general method and specific procedures by which they were found will be discussed in detail.

General Method for Analyzing the Critical Incidents

Each critical incident that was obtained in the interviews with officers contained a detailed account of how some officer had performed his duty in a way which caused other officers to judge him as effective or ineffective. The performance in each incident was potentially, therefore, a critical requirement for the job of an Air Force officer since it had resulted in the success or failure of some Air Force officer. But many of these performances were quite similar even though by different officers at different times and in different situations. They were similar in what the officers did, how they acted; in short, similar in the officer behavior shown in the incidents. Thus, one critical requirement could cover a number of different incidents if they were sorted into groups of similar officer behavior. For such a sorting, a general method of analysis could be used which is known by several different names, "content analysis," "analytic induction," and "category formulation." This method consists of five simple steps by which a large number of critical incidents are successively reduced to a smaller number of descriptive headings or categories in a classification. Critical requirements are then formulated or written to cover the incidents in each major category.

In the first of these five steps, each incident is studied to find the central or key behavior theme in that incident. The key behavior is that way of acting which contributed most to the success or failure of the individual in the incident. This behavior theme is heavily underlined on the record of the interview by one analyst and his judgment is checked by other analysts in later steps of the analysis. Ordinarily, the second step is to divide all the incidents into successful and unsuccessful incidents on the basis of the central behavior found. This step was unnecessary in this project since the officer interviewed had already indicated which incidents were successful (effective) or unsuccessful (ineffective). On this project, therefore, it was possible to go directly from the first step to the third and fourth steps of the analysis which are both taken separately for the successful and unsuccessful behavior incidents.

Step three consists of making as large a classification of

the central behavior themes as is necessary to cover all the different ones found in the incidents and then sorting all the incidents into the correct categories of this classification. The headings of these categories are not single words or trait names, but short descriptions of the central behaviors. During this sorting, each incident record is reread and checked against the category heading under which it is about to be classified. This is a precaution against grouping together incidents with seemingly the same central behavior but which actually are different when the entire incident is reconsidered in a comparison with all others in a category. Whenever this checking shows the need for another category, one is added to the classification. The final result of this step is a series of category headings which describe all the different kinds of behavior in all the incidents. Its practical effect is the reduction of a large number of incidents to a smaller number of short, descriptive sentences.

The fourth step in the method of analysis is a reduction of the number of short sentences, the category headings in the large classification, by combining those which describe closely related but not necessarily identical ways of behaving. Again the actual incidents which are regrouped by this combination of category headings are checked against the new heading and again any which do not fit are reclassified. In theory, at least, steps three and four are the same; in practice, however, it is not possible for an investigator to classify the incidents directly into a final classification without running the risk of making the incidents fit the classification instead of making the classification fit the incidents.

At the fifth and final step, the separate classifications of the successful and unsuccessful incidents are brought together. The two classifications are placed side by side and the contrasting category headings are matched. Where the match is almost perfect, i.e. complete opposites, critical requirements are written which cover the incidents in both classifications. Where the categories do not match perfectly, critical requirements are formulated for all categories which contain a number of critical incidents. Where the unmatched categories contain only one or two incidents, critical requirements are usually not necessary because the behavior described is often too rare to be included as a job requirement.

The details of this general method can be seen in the specific procedures followed in analyzing the critical incidents obtained in interviews to formulate critical requirements of an Air Force officer.

Procedure Followed to Formulate Critical Requirements

Each of the 3,029 critical incidents were placed on a separate file card which resembled the AGO Form 20, used to keep the personnel record of enlisted men. In the center of the card, the complete incident was copied from the interviewer's notes or from the booklet used

by the officer in a group interview. The holes along the edges of this file card were used to code information about the interview in which the incident was obtained, information about both the officer interviewed and the one in the incident, and information about the time and place where the incident occurred. Other holes along the card's edge were used in the analysis to index the several different classifications made of the incident. With this indexing, it was possible at any stage of the analysis to reassemble all cards in their former positions within an earlier classification.

Despite the specific questions asked in the interviews, many of the incidents contained considerable personal opinion on why an officer acted the way he did instead of only what he did to be effective or ineffective. To separate the behavior from the opinion, the analyst drew brackets ( ) around the one or more behavior accounts appearing on each card. Two thousand one hundred and forty-two separate behavior accounts were found on the 1228 file cards of effective incidents, and 2,869 accounts were found on the 1801 cards for ineffective incidents. Where there was only a single behavior account on a card, it was used in all classifications of that card. Where there was more than one behavior account on a card, the analyst underlined the one which, from all the information in the entire incident, seemed to be the most important. This underlined part of the incident was then used for classifying the whole incident. Behavior accounts set off in brackets but not underlined were subsequently checked against the list of critical requirements to see if they were adequately covered in the final results of the analysis.

Before the file cards of effective and ineffective incidents were turned over to two different analysts for classification, a small pilot study was made of 114 incidents from 22 preliminary interviews. The purpose of this study was not to arrive at any specific categories for classification but to find a few general divisions or sections which would serve tentatively to keep the two separate classifications enough alike to compare or match their results easily when they were completed. These general divisions were called "areas of behavior" and consisted of the following general headings: character, personality, proficiency in handling personnel, proficiency in administrative organization and detail, proficiency in making decisions, technical skills and information, the acceptance of discipline, and industriousness. The first or most specific classifications were started with these eight areas as a guide. As the classifications progressed, however, it became evident that some of these areas, especially those of character, personality, and industriousness were being interpreted differently by the analysts. The areas were revised, therefore, to correspond more closely to the different parts of the officer's job. The revised eight areas which were found satisfactory for these first and all other classifications were: proficiency in handling administrative details and plans; proficiency in supervision of personnel; proficiency in decision, direction and initiation of action; proficiency in professional or technical specialty; acceptance of team principle and organizational discipline; habits of

work; adjustment to the job situation; and adjustment to the off-duty situation.

The technique used by both analysts to develop a classification for the effective and ineffective incidents was the same. For each category suggested by the behavior on an incident card, a file separator or division card was made. The tabs on these separators were coded to sections of a "master" classification outline which was being developed as more and more categories were needed to cover the different incidents. Each time a new incident card was considered, the analyst would check it against the classification outline to see if a category already existed for the behavior in that incident. If so, he would file it behind the correct separator in the file; if not, he would make a new category and file separator for the incident. At the beginning of the analysis, almost every incident card required a separator, but as more and more incidents were analyzed fewer and fewer new categories were needed. Under the eight original areas, numerous sub-areas evolved from the descriptive categories added to the classification outline. The first classification or grouping of the effective incidents resulted in 323 separate categories of behavior under 43 sub-areas of 7 out of the 8 original areas. No effective incidents were found which fell under the eighth general area, "Adjustment to the Off-duty Situation," the third largest area in the number of ineffective incidents. The first classification of the ineffective incidents resulted in 589 separate categories or types of behavior, grouped under all the eight general areas and under 51 sub-areas.

Since all the incident cards filed behind each separator in either classification were, from the standpoint of the key behavior on the cards, identical, any one card in each category could be used as a "typical card" for that category and the rest of the cards in that category could be considered as "duplicate cards." Thus, this first step in classification not only grouped the incident cards by descriptive categories but also, in effect, reduced the total number of incident cards which had to be studied closely in the next step of the analysis--the reduction of the categories of identical officer behavior to fewer categories of closely related officer behavior.

This step was taken by considering all the categories under any sub-area of the classification outline for possible combinations. Whenever two or more descriptive categories under a sub-area seemed closely related, the "typical" incident cards in these categories were studied to see if the actual incidents were as closely related as the category headings indicated. If the incidents proved to be closely related, a new category was made and all the incident cards in the old categories were regrouped under this new category. It can be seen that such a combining and recombining of categories could continue until the new category headings became so general that a person unfamiliar with the analysis would have difficulty in seeing a direct relationship between the headings and the critical incidents filed under those headings. To avoid this undesirable outcome, a rule was set up that

no combination of categories would be made which did not result in a new category heading which continued to describe what the officers in the incidents actually did or how they behaved. "Spot checks" were made from time to time by different investigators to see if all the incidents in these new categories were correctly covered and described by the new category headings.

The result of this second classification of the incidents was a reduction of categories of effective officer behavior from 323 to 146. In the corresponding classification of ineffective officer behavior, the original categories were reduced from 589 to 205. These new and shorter classifications were then compared, and the contrasting categories in the two classifications were placed along side of each other. The separate classifications and their matched classification are shown in their entirety elsewhere.[1] However, to illustrate the kinds of categories resulting from this analysis, the matched classification for one of the general areas is given below. To help distinguish the two types of categories, those from the analysis of the ineffective incidents are indented farther from the left-hand margin of the page.

II. PROFICIENCY IN SUPERVISION OF PERSONNEL

No. of effective incidents	372
No. of ineffective incidents	209
Area Total	581

A. Assignment and Delegation of Responsibility to Personnel

No. of effective incidents	33
No. of ineffective incidents	36
Sub-area Total	69

Delegated responsibility to subordinate. 13
Tried to handle all detailed work himself. 17

Selected competent subordinates to help him carry out an assignment. 6
Did not use available personnel as effectively as possible. 7

Delegated a specific task to each subordinate. 14

Delegated work which was rightfully his own to subordinates. 12

B. Motivation of Personnel

No. of effective incidents	175
No. of ineffective incidents	65
Sub-area Total	240

Demonstrated his confidence in subordinates 35
Kept subordinates from acting although qualified 2

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[1] Technical Appendices and Notes, Appendix C.

II. PROFICIENCY IN SUPERVISION OF PERSONNEL (Continued)
B. Motivation of Personnel (Continued)

Set a good example for his subordinates.	26
Set a poor or no example for his subordinates.	8
Obtained efficiency by using stern, forceful measures.	18
Let subordinates run over him.	6
Showed an interest in subordinates' welfare.	13
Showed no respect or regard for subordinates.	2
Acquired devotion or instilled enthusiasm through his personality.	13
Used threats and abusive language.	12
Used finesse in supervisory contacts with subordinates.	7
Was disagreeable in attitude and technique in supervisory contacts with subordinates.	25
Made subordinates feel a part of the organization.	9
Issued orders skillfully.	13
Obtained efficiency by letting subordinates know he was aware of their activities.	13
Obtained efficiency by taking time and patience to help subordinates.	14
Obtained efficiency by improving working conditions, surroundings, etc.	8
Obtained efficiency by capitalizing on competition and cooperation within groups.	6
Delighted in finding errors and correcting others.	3
Exacted excessively strict compliance with regulations from subordinates.	6
Tried to be popular with all subordinates rather than operate his unit effectively.	1

C. Evaluation of Subordinates and their Work

No. of effective incidents	17
No. of ineffective incidents	38
Sub-area Total	55

Reassigned subordinates to duties for which they were qualified.	10
Inaccurately evaluated ability of subordinates.	5
Treated all men with the same fairness.	7
Allowed personal relations to influence evaluation of subordinates.	19
Failed to check quality of finished work of subordinates.	14

II. PROFICIENCY IN SUPERVISION OF PERSONNEL (Continued)

D. Regard for Welfare of Subordinates

No. of effective incidents	69
No. of ineffective incidents	16
Sub-area Total	85

Showed an interest in living and messing conditions, recreational opportunities, etc. of subordinates 25

Disregarded physical welfare of subordinates. 14

Showed an interest in subordinates' welfare as affected by rules, regulations, etc. of a military society. 7

Failed to help subordinates surmount restrictions imposed by the military situation. 2

Showed an interest in personal affairs, personalities, etc. of subordinates. 23

Improved working conditions, equipment, facilities, schedules, etc. 7

Showed an interest in the duty activities of subordinates. 7

E. Instruction and Training of Subordinates

No. of effective incidents	13
No. of ineffective incidents	24
Sub-area Total	37

In issuing an order, made sure subordinates knew exactly what they were to do. 2

Gave insufficient, conflicting or easily misunderstood instructions. 13

Trained his subordinates. 9

Did not train or provide training opportunities for subordinates. 4

Gave orders informally but made sure they were followed. 1

Had subordinates practice their duties so they could operate more effectively. 1

Did not keep subordinates informed of orders, changes, etc. 6

Was ineffective in instructing or training subordinates. 1

F. Recommendations regarding Subordinates

No. of effective incidents	7
No. of ineffective incidents	21
Sub-area Total	28

Took disciplinary action appropriate to the offense. 1

Took disciplinary action which was not appropriate. 10

Was scrupulously just in disciplinary matters. 3

Failed to take necessary disciplinary action. 5

II. PROFICIENCY IN SUPERVISION OF PERSONNEL (Continued)
F. Recommendations regarding Subordinates (Continued)

Gave an offender a "second chance."	3
Disregarded best interests of total organization in acting in interest of his subordinates.	5
Denied right to appeal to higher authority to subordinate in disciplinary case.	1

G. Supervisory Practices

No. of effective incidents	58
No. of ineffective incidents	9
Sub-area Total	67

Employed supervisory techniques which showed that he respected and was interested in subordinates.	25
Employed techniques which showed that he had no confidence or respect for subordinates.	8
Was firm but tactful or used his rank appropriately in dealing with subordinates.	7
Was weak and ineffectual in dealing with subordinates.	1
Was straightforward and frank with subordinates.	17
Insisted that subordinates keep him informed.	2
Employed skillful devices to deal with difficult personnel problems.	4
Conducted conferences and meetings effectively.	3

The matched classifications within the other seven areas were similar. The distribution of the incidents among the eight areas of behavior is shown in the following table. This table does not include the 114 incidents used in the preliminary study or 10 incidents which were not classified because they consisted entirely of the general opinions of the officers interviewed and contained no actual incident.

CLASSIFICATION OF CRITICAL INCIDENTS
BY AREAS OF BEHAVIOR

Areas of Behavior	Effective No.	Effective %	Ineffective No.	Ineffective %
Proficiency in handling administrative details and plans	201	16.8	159	9.3
Proficiency in supervision of personnel	372	31.0	209	12.2
Proficiency in decision, direction and initiation of action	282	23.5	144	8.4
Proficiency in professional or technical specialty	33	2.8	71	4.2
Acceptance of team principle and organizational discipline	92	7.7	465	27.3
Habits of work	192	16.0	348	20.4
Adjustment to the job situation	26	2.2	141	8.3
Adjustment to the off-duty situation	0	0.0	170	9.9
Totals	1198	100.0	1707	100.0

From this table it can be seen that it was in the supervision of personnel and making of decisions that the greatest number of officers was judged as effective, while it was in their acceptance of organizational discipline and habits of work that the greatest number was judged as ineffective.

Like the analysis of the critical incidents, the formulation of the critical requirements passed through several stages which progressively reduced their number. Tentative critical requirements were first formulated for all the matched categories and all those unmatched categories in the classification of critical incidents which covered at least five separate incidents. These tentative critical requirements were then discussed with experienced officers and civilian specialists to reduce the number and to clarify their meaning. The purpose of the project--to develop officer evaluation procedures--made some reduction in the list of critical requirements necessary since it would be impractical to try to evaluate officers systematically on several hundred job requirements. From these different discussions, the list of requirements was reduced to seventy-seven.

The seventy-seven critical requirements are listed on the following page by the areas of officer behavior used in the analysis of incidents. It should be pointed out, however, that these areas are only convenient ways to group the critical requirements and are not parts of the requirements. Other arrangements of the requirements could be made. Each requirement is on the list because it was found to be a factor in the success or failure of a number of officers. Its position or order among other critical requirements under any particular area is a matter of logical organization only.

Critical Requirements of an Effective Air Force Officer

Area I. Proficiency in Handling Administrative Details and Plans.

1. Comprehends instructions fully as shown by his actions.
2. Prepares systematic plans for the carrying out of his instructions.
3. Schedules his own and other's work on a project so as to meet commitments.
4. Collects complete information from available records when carrying out assignments.
5. Gets ideas and suggestions from others for use in carrying out an assignment.
6. Checks or verifies the completeness and accuracy of his own and other's work before passing it on.
7. Prepares letters, reports, or charts which convey their intended meaning clearly and accurately.
8. Obtains cooperation and support from individuals and groups concerned with his project.
9. Presents his findings and recommendations in such a way as to enable his superior to make a definite decision on a project with confidence.
10. Keeps accurate records.
11. Keeps appropriate people informed of his activity.

Area II. Proficiency in Supervision of Personnel.

1. Knows the important requirements of jobs under his supervision.
2. Knows the capabilities and limitations of personnel under his supervision.
3. Assigns personnel to jobs for which they are best fitted.
4. Makes clear-cut assignments of responsibility to subordinates.
5. Backs up the action taken by subordinates in accordance with responsibility.
6. Explains the reasons for plans, directives, and existing conditions.
7. Makes sure subordinates understand his instructions to them.
8. Motivates subordinates by convincing them that they are making an important contribution to their particular assignment.
9. Motivates subordinates by encouraging and respecting their ideas.
10. Motivates subordinates by commenting upon the better points in their work and discussing with them the weaker points.
11. Motivates subordinates by giving them increasing amounts of responsibility.
12. Motivates subordinates through the use of friendly competition.
13. Motivates subordinates through the development of pride in and loyalty to the team.
14. Sets a good example for his subordinates through his own habits of work.
15. Keeps himself adequately informed of subordinates' progress toward the completion of their assignments.
16. Evaluates the work of subordinates accurately and impartially.
17. Provides training and opportunities for the professional development and advancement of subordinates.

18. Prevents personal differences among subordinates from interfering with the effective carrying out of assignments.
19. Helps subordinates to do a good job by constructive and friendly advice and assistance.
20. Shows an active interest in the improvement of living, working, and recreational facilities for subordinates.
21. Helps subordinates with their personal problems when suitable opportunities arise.

Area III. Proficiency in Decision, Direction and Initiation of Action.

1. Bases plans and actions on an accurate and detailed knowledge of the objectives of his organization.
2. Accepts full responsibility for achieving the objectives of the organization under his authority.
3. Anticipates and prepares for problems likely to arise in achieving the objectives of his organization.
4. Makes effective use of the experiences of himself and others (colleagues, superiors, and subordinates) in studying ways of achieving the objectives of his organization.
5. Develops appropriate and effective policies, plans, and principles to be used in achieving the objectives of his organization.
6. Makes prompt and definite decisions when the situation requires.
7. Withholds decisions until the essential pertinent facts have been examined.
8. Makes decisions which take into proper account all the available facts.
9. Initiates action promptly in emergencies.
10. Initiates necessary action promptly.
11. Is persistent in his efforts to achieve the objectives.
12. Is forceful in his efforts to achieve the objectives.
13. Is resourceful and ingenious in solving problems encountered in his efforts to achieve the objectives.

Area IV. Proficiency in Professional or Technical Skill.

1. Shows superior proficiency in his field of specialization.
2. Indicates by his work good basic training in his field of specialization.
3. Shows wide knowledge in his particular field of specialization.
4. Makes effective use of own experience in his field of specialization.
5. Shows familiarity with and skill in using all materials, tools, and equipment associated with his field of specialization.
6. Takes advantage of opportunities to study and to improve his proficiency in his field of specialization.
7. Shows ingenuity in problems in his field of specialization.
8. Handles necessary assignments outside his specialty effectively.

Area V. Acceptance of Team Principle and Organizational Discipline.

1. Shows by his actions that he appreciates the need for and function of the authority of his superiors, the use of military channels, and the division of responsibilities among the various echelons in operating a large military organization.

2. Shows by his actions that he appreciates the necessity of rules, regulations, and standard procedures as essential to successful operation of a military organization or team.
3. Uses only regular military channels to secure changes in assignment, changes in station, or promotion.
4. Shows by his decisions and actions that he places his responsibility to others in the organization above his own convenience and pleasure.
5. Defends his organization and its personnel from unfair action, unwarranted criticism or danger.
6. Does his assigned work regardless of the possibility for official recognition.

Area VI. Habits of Work.

1. Works hard on his assigned duties.
2. Works beyond minimum duty hours when necessary to meet a deadline or commitment.
3. Reports on time for scheduled appointments, meetings, conferences, or formations.
4. Instructs others on how to carry on before he takes leave or absents himself from his job for any length of time.
5. Takes pride in and responsibility for his work.
6. Shows dependability by making only those promises for the completion of work which he can keep under normal circumstances.
7. Develops proficiencies and potentialities for his job by study, reading, observations, and research.
8. Volunteers to do necessary or additional work.
9. Is honest in statements of fact or information about his work, official actions, or duty status.
10. Is honest in all matters involving government property or funds.

Area VII. Adjustment to the Job Situation.

1. Maintains a positive, healthy adjustment to the job despite unusual demands, stresses, or disturbing circumstances.
2. Maintains a friendly, reasonable, and unassuming attitude in his relations with others on the job.
3. Remains calm and competent under emergency conditions.

Area VIII. Adjustment to the Off-duty Situation.

1. Is sufficiently temperate in his personal habits not to bring discredit on the service or to affect the quality of his work.
2. Is sufficiently responsible and discreet in the management of his personal affairs not to discredit the service or to affect the quality of his work.
3. Is neat and presentable at all times.
4. Conforms to civil laws and customs.
5. Conducts himself as a gentleman in off-duty social situations.

With the formulation of these critical requirements, the research for a definition of a good officer was concluded. A good Air Force officer is one whose performance or behavior meets the critical requirements of an effective Air Force officer. The next research

problem was how to measure the individual officer against this definition within the existing framework of the U.S. Air Force.

CHAPTER IV

DEVELOPMENT OF THE EVALUATION PROCEDURE

Introduction

It is one thing to know the important items on which an officer should be evaluated and yet another thing to get an accurate evaluation on those items. The list of critical requirements of the job of an Air Force officer, in addition to setting forth the important items for evaluation, was also a step toward accurate evaluation. This was because the requirements were for the most part simple statements of what an officer must do to be considered effective on his job and not vague or ambiguous words which could be interpreted differently by different individuals. Thus, the first stage of the project, the definition of a good officer, was more than just a preparatory study for the main research on officer evaluation. It was an integral part of that research. By the clear statement of how an effective officer performs on his job, one source of weakness and inaccuracy in officer evaluation was reduced greatly.

The development of an accurate way to evaluate officers followed certain systematic lines. First a set of principles was adopted to serve as a guide for the development of any method of evaluation. Secondly, experimental types of methods or procedures were constructed, and each of them was given either a brief field test or discussed with experienced officers to discover its strengths and weaknesses. Thirdly, specifications were drawn up for the most promising type of procedure, and tentative forms of this procedure were constructed according to these specifications. Fourthly, these tentative forms were given an extensive field tryout in the evaluation of approximately two thousand officers. Lastly, the results of the field tryout were appraised both statistically and through an analysis of the comments and suggestions of the officers who had used the tentative forms. The different parts of this developmental process will be presented in this and the following chapter of this report.

Principles for Accurate Officer Evaluation

From the beginning and throughout the earlier stages of the project, a great deal of attention was given to the framing of a few general principles to be followed in the later developmental work on specific ways to evaluate officers. In arriving at a list of such principles, the experience of a number of people was considered. The consultants and staff members of the American Institute for Research in their work with military and civilian personnel had learned a number of things about accurate evaluation in general which entered into these principles. General and senior officers were interviewed for their judgment on these principles and on officer evaluation in particular.

Also, as mentioned previously, the members of the AAF Officer Selection Committee contributed several ideas about necessary features of any method of evaluating military personnel which were used.

While it was recognized that all such principles might not prove practical in an evaluation procedure developed for the immediate adoption by the Air Force, it was felt that their statement would serve as a worthy objective to be reached ultimately if not wholly at the present time. These principles were divided into two groups corresponding to the two parts of the process of evaluating personnel in a military organization: principles pertaining to the accuracy of appraising or judging the individual's effectiveness, and principles pertaining to the accuracy of reporting those judgments to others for use in the administration of the organization.

To obtain the most accurate judgments of an officer's effectiveness in the Air Force, the following general principles should be followed:

1. The officer should be judged separately on his effective performance of the important parts of his job. The following of this principle helps to eliminate evaluations based upon minor or unessential acts which color the appraisals of over-all efficiency. For certain purposes, judgments on over-all effectiveness may be desirable, but these can be made more accurately when effectiveness on the important parts of the job has been determined first.

2. Judgments of effectiveness should be based on numerous observations of daily performances rather than on one or two isolated, exceptional or dramatic acts. This principle tends to eliminate the evaluation of an officer solely on something which he may have done either very well or very poorly only once during an evaluation period and to substitute the idea of the characteristic or representative way of acting as the basis for judgment.

3. The numerous observations of daily performance should be made systematically, i.e., planned in advance so as to cover performances on all the different types of work done by the officer being evaluated. This requires that some previous time and thought be given to the making of observations, but research has shown that judgments made on general impressions and haphazard observations are usually unreliable.

4. The frequent, systematic observations of performance on the important parts of the job should be recorded in some way to avoid errors in remembering the facts upon which to make final evaluations at the end of a reporting period. Although the period over which officers are supposed to be

evaluated is usually six months, most evaluation reports actually are made by recalling only performances observed during the most recent days or weeks.

5. Officers should be evaluated primarily by their direct supervisors who are in a position to make the necessary observations of their performances. Ordinarily this would be the immediate superior officer as required in current regulations. But the important part of this principle is that the officer making the evaluation should be in a position to observe the performances and not how "immediate" he may be in a chain of command. The chain of command should be followed, however, in reviews of the evaluations so that both the discrimination and the judgment of the officer making the primary evaluation may be checked by more experienced officers.

6. The number of officers which any one individual should be required to judge must be limited by the time and opportunity that he has to make the needed observations. The exact number will vary but seldom will be more than ten and probably not more than seven. Poor evaluations are often the result of one individual trying to judge the performances of too many officers.

To obtain the most accurate and useful reports of the evaluations made on the performances of officers, the following principles pertaining to the report form should be followed:

1. The report form should parallel and summarize the observations made on effective or ineffective performances of the job. Frequently report forms are so designed that accurate observations must be inaccurately "averaged" to fit into a few general categories of the form. Reporting officers are forced, by the form itself, to omit important details of their evaluation. A few neat categories gives a false impression of accuracy and seriously limits the uses which can be made of such a report.

2. The report form should be clear and understandable to the officer using it. When a report form is to be used again and again to supply information on effectiveness, any short run advantage gained in tricking the officer as to the purpose or meaning of what he reports will be lost by the inaccuracies introduced by the tendency of officers to "beat the system" the next time they fill out the form.

3. A place should be included on the report form for any remarks or comments which the officer filling it out may wish to make a part of his evaluation. This principle recognizes that inaccuracies in reporting often are the

result of a lack of opportunity for the reporting officer to explain unusual circumstances or conditions which affected the performances which he observed. When this is the case, many officers report either higher or lower evaluations of these performances in order to be fair to the officer they are reporting upon.

4. The report form should not require that officers be compared by the individual making out the report. To yield usable information about officer quality, any system of evaluation must ultimately compare the effectiveness of different officers. But such comparisons should not be made by the officers who fill out the report forms. Otherwise personal likes and dislikes or different standards based on the different experiences of reporting officers will be included in the evaluations. The comparative effectiveness of officers should be determined impersonally and objectively by relating the numerical scores of thousands of different officers at different stations of the Air Force and not by comparing the performances of three or four officers at one station or by comparing the performance of an officer with that of several hundred other officers whose actual effectiveness was observed several years ago.

5. Each section of the report form should have some administrative use in increasing the efficiency of the Air Force. Over a period of time nothing contributes more to accurate reporting of evaluations than a belief that the evaluations are considered important and useful to the Air Force. This belief can be built up and strengthened by designing the report form so that the uses which are or can be made of the information supplied will be both evident and approved by most every officer.

Experimental Types of Evaluation Procedures

Within the general principles adopted for accurate officer evaluation, many quite different ways or specific techniques were possible to carry them out. There existed a number of different techniques which had been used with varying success in large civilian organizations, but most of these were untried in a military organization. Since an early decision was necessary on what type of evaluation procedure should be developed on this project, work was begun at once on the construction of experimental procedures which would test the features of these untried techniques. Little hope was held that any one of these experimental types would be the final solution to the problem of evaluating Air Force officers, but it was thought that the better parts of these experimental procedures might be used in a final procedure if they were found to be

practical in military situations. Accordingly, twelve different types of experimental procedures were constructed and given brief field tryouts at different Air Force installations. The report form for each of these procedures included a space for the comment of the officers using it on its adequacy as a technique for judging officer effectiveness. Six other experimental types were outlined and discussed with officers, but these were rejected without field tryout. From these discussions and tryouts, evidence was built up on what type of procedure would satisfactorily measure officer effectiveness on the critical requirements and yet be practical in the Air Force.

For purposes of summary in this report, the different experimental types can be classified on their similarities in how they required direct, systematic, and recorded observations of performances in meeting the critical requirements.

One group of four experimental procedures required immediate reports on how an officer carried out, from beginning to end, one of his many routine assignments or duties. Observations were directed toward how the critical requirements were met on this one assignment, and the report forms were so designed that they could be used by the evaluating or reporting officer to record his judgments at the end of various phases of work on that assignment. In one procedure of this group, the critical requirements were presented on the report form as a simple "yes - no - unknown" type of check list. In another, they were presented as graphic scales with the ends of each scale described by the kind of behavior which was in keeping with the requirements and the kind which was contrary to them. The reporting officer checked numbered points along the scales between these extremes to show his judgment of the degree to which the requirements were met in the performances he observed. The third type used a report form which expressed the requirements in the familiar "forced choice" arrangement in which the reporting officer was forced to mark the most characteristic and the least characteristic way of behaving within groups of four requirements. Certain of these four requirements were critical and certain were not. In the fourth type of procedure, the reporting officer was also presented with statements describing behavior in groups of four, but these statements described four different ways of meeting one critical requirement instead of several different requirements. In other words, the report form resembled a multiple-choice test in that the reporting officer chose the one of four descriptions which best "fit" the behavior he observed in the officer he was evaluating.

Variations within these four procedures were also made. One included a supplemental report form which was filled out by a subordinate of the officer being evaluated. This form covered selected requirements which were thought to be more easily observed by subordinates than by superiors. Under this variation, the superior completed the final evaluation but was aided in his report by the one filled out by the subordinate.

Another group of experimental procedures followed the idea of a test assignment. As in the procedures just summarized, an officer was judged on how he performed on a single assignment. In this second group of procedures, however, the officer was given a special assignment to complete by a definite time and was told that he would be observed and evaluated on how he carried it out within the set time limits. The tasks assigned for these tests were not routine duties of the officer but were things which all officers might reasonably be expected to perform many times during their careers; such as, writing a directive, making an inspection, investigating an accident, and similar assignments. The report forms used with these procedures were similar to those in the other experimental types with an additional provision for entering "grades" for any materials turned in as a part of the test.

The experimental procedures in the last group were based on observations over a given period of time rather than on one specific assignment, routine or special. The critical requirements were grouped under familiar general traits, such as honesty, aggressiveness, leadership, and loyalty. The reporting officer checked off the critical requirements as he observed them being met by the performances of the officer he was evaluating. In addition to checking off items on a list, a brief written account was required on the exact circumstances under which each critical requirement was met.

Certain conclusions were reached from the discussions, try-outs, and written comments on the report forms of the experimental procedures. First, officers found that observing carefully on one routine assignment was a good way to get a great deal of information about an officer's effectiveness. They felt, however, that it was difficult to choose one routine assignment which included all the different things any officer would do on his job and that consequently the procedure would have to be repeated several times. The feature of observing performance on specific assignments or projects was included in the instructions for the proper use of one of the forms for the procedure finally developed, but these instructions did not limit such observations to a single assignment or project.

Another conclusion was that officers liked the feature of the four descriptions in the multiple-choice type of report form but felt that intermediate choices were needed since not all of their observations fitted exactly any one of the four descriptions given. While the graphic scale type of report form permitted recording of observations which were "in between" the descriptions at the ends of the scales, the interpretation of the numbers on the scales varied widely from one officer to another. In the specifications for an acceptable final procedure, therefore, the scale idea was used but descriptions and numbers were both put along the scales.

The test assignment procedures, in some respects, proved to be good techniques for the evaluation of officers. Two serious drawbacks were found, however, to such tests: all of them were too

time consuming since they took officers away from their regular duties while taking the tests; and rumors about the nature of these tests spread so fast at the stations where they were given a tryout that some officers had a chance to study for the tests in advance while others did not. Both of these drawbacks eliminated these procedures from further consideration.

It was concluded from the check lists of critical requirements grouped under general traits that the grouping feature was helpful to reporting officers even though there was considerable disagreement among them about which critical requirements should be placed under which general traits. A grouping of the requirements was followed in planning a final procedure, but this grouping was by areas of officer effectiveness rather than by general traits. The difficulty with supplemental reports by subordinates was found to be the unwillingness of subordinates to discriminate between good and bad performances rather than in the unwillingness of superior officers to use these reports. It was anticipated that the nature of a military organization would tend to discourage subordinates from reporting unfavorably on their immediate superiors, but the procedure was tried at the suggestion of a number of high ranking officers who felt that their own subordinates could better evaluate them on some things than their superiors. The use of unsigned reports by subordinates was considered an unsuitable technique for the Air Force.

Specifications for an Officer Evaluation Procedure

From the experimental procedures, comments from officers, and conferences with military and civilian specialists, an outline emerged of the type of an evaluation procedure which deserved fuller development and an extensive field tryout in the Air Force. In general, this procedure consisted of matching the facts of observed performance over several months with a series of descriptions of how effective and ineffective officers had met or had failed to meet the critical requirements of the job of an officer.

Specifically, this procedure might be carried out in two related ways. In the first and most exact way, an officer would be observed frequently throughout a reporting period to see how well he was meeting the critical requirements of the job. As these observations were made, they would be recorded by checking in a workbook those descriptions of effective and ineffective performance which matched these observations. At the end of a reporting period, the many different entries in the workbook--the recorded facts of observed performance over an entire period--would be studied before an official report was made on the level or degree of effectiveness achieved on each of the critical requirements for that period. In the other way for carrying out this procedure, the workbook would be used as a very detailed manual to guide the reporting officer in making out a single report form at the end of the reporting period.

Instead of matching observations of performances throughout

a reporting period with descriptions in the workbook, this would be done only when a final official report was to be executed. At that time, the reporting officer would choose those descriptions most characteristic of the way the officer being evaluated had met the critical requirements. Between these two methods of applying the procedure, there could be a number of intermediate variations for the use of the workbook. These might include recording observations at weekly or monthly intervals throughout a reporting period or using the workbook as a guide to make "unofficial evaluations" at monthly intervals which might be discussed with the officer concerned or which might reveal trends in effectiveness which should be considered in making out an official report of effectiveness at the end of a six-month period.

Regardless of the specific way the procedure might be used, two standard forms were required: a booklet containing descriptions of effective and ineffective ways of meeting the critical requirements, and a report form for the degrees of effectiveness assigned at the end of an official reporting period. Specifications were drawn up for the development of these forms and work was begun to prepare them for use in a field test of the evaluation procedure. These specifications included a number of principles and conclusions already discussed elsewhere. Such specifications will be listed below with a minimum of comment. Other specifications, especially those for the scoring of the report form, will be discussed more fully.

Six specifications were set up for the construction of a workbook to be used by evaluating officers to record their observations or to help them execute a single report form. These were:

1. Each critical requirement will be presented in the workbook as a five-point scale with a brief heading suggestive of the requirement which the scale covers. Below each point on every scale will be a statement describing how an officer acts when succeeding or failing to meet the requirements. Sufficient space will be left between the scales so that a reporting officer may check any description as often as he observes the corresponding behavior on the part of the officer he is evaluating.

2. All scales will run from descriptions of ineffective behavior at the low end of the scales to very effective behavior described at the high end. The description at the low end of any scale will not be so "bad" nor the one at the high end so "good" that the behaviors described would seldom be observed in normal military operations. In keeping with this specification, these end descriptions should be taken directly from the critical incidents obtained in interviews with officers.

3. The statement at the center of each scale will describe an acceptable way of acting which meets a critical requirement. The two statements below this

center will describe ways of failing to meet the requirement and the two above the center will describe effective ways of acting beyond that necessary for success.

4. The tense of the descriptive sentences along the scales will be the simple past to correspond to their use in recording observations made in the recent past. The tense used in the brief headings for the scales will be the active present since they suggest the critical requirements which must be met by officers to be effective in the Air Force of today.

5. The subject of most of the descriptive sentences will be the officer whose actions and performances are being recorded. Because of this, the subject need not be expressed in the sentences but may remain understood. Therefore, most of the descriptive sentences will begin with a verb or an adverb.

6. The scales will be grouped under the several areas of officer effectiveness for which separate estimates or scores would be desirable in the administrative use of any evaluation report.

A similar set of specifications was drawn up for the report form to be used at the end of the reporting period to make evaluations for the entire period. These specifications were:

1. The report form will consist of a single sheet of paper. All evaluations expressed quantitatively will be on one side of the sheet while evaluative comments by the reporting and indorsing officers will be on the other along with the necessary personal data about the officer being reported upon.

2. The items on the report form will be exactly the same as the headings of the scales in the workbook. Each item will be preceded by five small boxes corresponding to the five points on the scales in the workbook. These boxes will be used by the reporting officer to enter check marks showing the degrees of effectiveness assigned by him for the items. In addition to these five numbered boxes, there will be a sixth box for each item which may be checked when no evaluation is possible because the reporting officer has insufficient evidence on which to make a judgment. This sixth box will be labeled "U" which will stand for "unobserved."

3. Provision will be made for the computing of a "raw" score for each area of officer effectiveness by the reporting officer and for the computing and assigning of a stanine score in a central office. This specification

recognizes the need of both the reporting and indorsing officer for a basis on which to consider and compare the reports which they may make on several officers. It also recognizes the need of those responsible for the administrative use of the reports for scores which can be adjusted for trends in evaluation. The "raw" score would give the reporting and indorsing officers enough information for their comparisons but insufficient information to permit them to choose in advance the level of effectiveness on which they might wish to place an individual officer and then to make out the report accordingly.

The stanine score is a standard score which is based upon the reported effectiveness of thousands of officers. It is not a fixed score, but one which can be adjusted to take care of any trends toward high or low effectiveness reports which may be discovered in the Air Force as a whole, in any major command, or in the reports from any one station. The stanine score is a single number which indicates the individual's position within one of nine groups of effectiveness. A stanine of 9 indicates that the officer is grouped with the highest 4% of all officers with whom he is compared. A stanine of 1 indicates that the officer is grouped with the lowest 4% of such officers. A stanine of 5 places the individual in the middle 20% of the group with which he is compared. The other stanines represent other percentages of the group used for comparison. While a high "raw" score is converted into a high stanine and a low "raw" score is converted into a low stanine, the exact stanine for any score depends upon the scores of hundreds of other officers for the same reporting period.

4. Ample space will be left on the report form for the use of the central scoring office to assign a number of different stanines for different administrative purposes.

Development of a Check List of Critical Requirements for Officer Evaluation Tentative Form A-22

The construction of the workbook according to the specifications was primarily an editorial job. The critical incidents which had been classified under each critical requirement furnished the basic source for the descriptive sentences written for the points along the scales. In some cases it was possible to use the exact words or phrases of the incidents to describe these points; in other cases the wording could be used with only slight changes to make it apply more widely to similar acts by other officers. On scales for certain critical requirements, only descriptions of the end points were supplied by incidents,

and it was necessary to fill in the descriptions of the intermediary points by constructing sentences which seemed to express logical gradations from these end points.

Several problems were encountered in the development of the workbook which required solution. One of the first of these was a technical point on whether or not each scale should be an independent and theoretically perfect "continuum of behavior," i.e., cover degrees of only one kind of behavior, or whether the descriptions along the scale might differ from one another not only in degrees of the same behavior but occasionally also in the kinds of behavior. For example, to cover the requirement of "understanding instructions," two scales would be necessary if the principle of perfect continua were to be followed strictly: one scale for the speed or rapidity shown in understanding instructions, and another for the completeness or thoroughness of understanding instructions. The problem was decided by considering how useful separate scales would be to the average reporting officer. If it were thought that he would have less trouble distinguishing effective or ineffective performance on a critical requirement with two scales instead of one, then two scales were constructed. But if two scales would require closer observation than could ordinarily be expected, degrees of the two kinds of behavior were combined into one scale. Thus, speed and completeness were combined into one scale for the understanding of instructions:

1. Misunderstood instructions completely in spite of very detailed explanations.
2. Was very slow to grasp instructions.
3. Understood instructions when given in detail.
4. Grasped quickly the main points of instructions.
5. Grasped instructions quickly, completely, and accurately.

A second problem was to make sure that the order of the descriptive sentences for any scale was the correct one. Were the five graded statements always in the proper sequence from the description of the most ineffective behavior at the one end of the scale to the description of the most effective behavior at the other end? As a way to verify the order, the proposed statements were submitted to a group of officers for their agreement or disagreement with the proposed order under the points of the scales. These officers checked these statements and their order both logically and by using them to record observations of the performances of their own subordinate officers for a ten-day period. There was very little disagreement among these officers on the order of the statements although a number of very good suggestions were made for improvement in the wording of some of the statements.

The third problem in the construction of the workbook according to specifications centered about the total number of scales which could be included without making it too detailed for practical use by officers. While it was desirable to cover all seventy-seven critical requirements as completely as possible, it was questionable whether reporting officers could be expected to observe or record information on

all the scales necessary to do this. Again, officers were consulted for their advice and help in finding a solution. A series of conferences was held at Headquarters, U.S. Air Force and at Headquarters, Air University, to discuss this problem. No agreement was reached on any exact number of scales, but certain suggestions were made about combining several requirements for the immediate purpose of evaluation which reduced the actual number of scales to fifty-eight. Some further reduction was thought desirable and possible, but this further reduction could be made more wisely after the results of a field tryout had been studied. If certain scales were seldom used by officers in the tryout or if there was a pronounced tendency for certain scales to overlap each other, these scales could be eliminated in a final revision.

For this field tryout, the fifty-eight scales were grouped into six areas of officer effectiveness for which it seemed likely that separate scores of effectiveness would be desired. Four of these six areas concerned evaluations of proficiency for staff work, supervision, command, and the particular technical or professional specialty of the officer. The other two areas concerned evaluations of the officer's adjustment to the discipline of a military organization and to the demands of particular work assignments. The titles given to these areas were changed somewhat to avoid too strict an interpretation by reporting officers. For example, "command" might often be restricted to those officers who held formal positions of command while what was desired was the evaluation of the proficiency of all officers in making decisions. Complete agreement was not reached on the exact titles for the six areas used in the tentative forms. It was understood that some revision would be made after the tryout of the procedure. The area titles on the tentative forms and the type of officer effectiveness which they covered were:

1. "Proficiency in Handling Administrative Details and Plans." Most every officer, regardless of assignment or grade, spends a considerable part of his time in this kind of "staff" work. A separate score on the effectiveness in doing this kind of work was needed.

2. "Proficiency in Supervising Personnel." The organizational make-up of the Air Force made this area an important one for separate evaluation since officers tend to gain or lose effectiveness in the way they supervise the work of others, military or civilian.

3. "Proficiency in Planning, Initiating, and Directing Action." This was the area of command, but the title was now broad enough to include direction and decision at other levels than that of formal command.

4. "Acceptance of Team Principle and Organizational Discipline." This was one of the areas of adjustment for which it was difficult to write a clear title. The type of requirements grouped in this area was clear, however. They dealt

with loyalty toward superiors and subordinates, the subordination of personal interests to the organization, and understanding the need for and purpose of discipline in a large organization.

5. "Personal Habits and Adjustment." This was the second area of adjustment. The ways of acting covered are often overlooked because of their undramatic nature. Yet the day-by-day attention to duty and detail, the meeting of commitments, and the getting along with associates, have contributed to the effectiveness of many officers.

6. "Proficiency in Professional or Technical Specialty." Knowledge of the competence or lack of competence of an officer in his principal duty assignment was considered of great administrative importance. By separating this competence from other proficiencies and adjustments, the malassigned officer can be distinguished from the generally poor officer. Also, a separate score on this area could be used to select officers for special assignments in the field of their specialty.

The workbook developed was given the title and form number of "Check List of Critical Requirements for Officer Evaluation, Tentative Form A-22." The complete workbook, in reduced dimensions to fit this report, is shown on the following seven pages.

TENTATIVE
FORM A-22

REPORT ON: _____
LAST NAME FIRST INITIAL

_____
GRADE SERIAL NO.

_____
ORGANIZATION

UNITED STATES AIR FORCE

CHECK LIST OF CRITICAL REQUIREMENTS
FOR
OFFICER EVALUATION

* * *

INSTRUCTIONS: The scales contained in this check list are based on **critical requirements** of an effective officer established through cooperative research with regular Air Force officers. The arrangement of these scales corresponds to the items in the "Report of Officer Effectiveness," Tentative Form A-21, which you will be requested to make for this officer at the end of the reporting period.

A fair and useful report of effectiveness will result if you make **frequent observations** of the on-the-job performances of this officer throughout the entire reporting period and **record** each observation in this booklet. Whenever you observe this officer in an activity involving one of the critical requirements, place a check (√) along the appropriate scale at a point above the statement which most closely describes the way he was **observed to act.** Throughout a reporting period any scale may be checked at as many different points as is necessary to record all your different observations. It has been found that the best way to evaluate an officer's effectiveness is to observe him systematically as he works on and completes specific projects or assignments. Observations should be recorded in this booklet as soon as possible after they have been made.

At the end of a reporting period, consider separately each scale and the critical requirement which it represents. Encircle **one number** on each scale which, in your opinion, indicates the degree of effectiveness demonstrated by this officer on that critical requirement. The numbers encircled can then be used to complete the "Report of Officer Effectiveness" for the reporting period.

If during the reporting period you have had no opportunity to observe the officer in an activity covered by one of these scales, **check** the box marked "Unknown."

AIR A-2, 4M
1 Feb. 48

I. PROFICIENCY IN HANDLING ADMINISTRATIVE DETAILS AND PLANS

1. UNDERSTANDING INSTRUCTIONS

☐	1	2	3	4	5
Unknown	Misunderstood instructions completely in spite of very detailed explanations.	Was very slow to grasp instructions.	Understood instructions when given in detail.	Grasped quickly the main points of instructions.	Grasped instructions quickly, completely, and accurately.

2. PLANNING WORK

☐	1	2	3	4	5
Unknown	Got in serious difficulty because of failure to plan work on a project.	Planned inadequately for the effective carrying out of a project.	Made plans which resulted in the satisfactory completion of a project.	Carried out a project effectively through good planning.	Obtained superior results by means of excellent planning.

3. SCHEDULING WORK (See also **V-47**)

☐	1	2	3	4	5
Unknown	Scheduled his work so poorly that the activities of others were hindered.	Made inefficient allocations of his time and effort.	Scheduled his work so as to cover the important phases of the assignment.	Distributed his time and effort fairly well among the various phases of his assignment.	Distributed his time and effort so that all phases of the assignment were very efficiently covered.

4. GETTING INFORMATION FROM RECORDS

☐	1	2	3	4	5
Unknown	Made no attempt to get information from available records while working on a project.	Overlooked certain information important in carrying out a project.	Collected from records most of the information essential to carrying out a project.	Collected from records all information necessary for carrying out a project.	Collected from records all information useful in carrying out a project.

5. GETTING IDEAS FROM OTHERS (See also **II-19**)

☐	1	2	3	4	5
Unknown	Discouraged suggestions from others regarding his project.	Made no attempt to get the ideas of others about his project.	Asked for ideas and suggestions but only when others showed interest in his project.	Made some effort to interest others in his project and obtain their ideas and suggestions.	Made a systematic effort to interest others in his project and obtain their ideas and suggestions.

6. CHECKING ACCURACY OF WORK

☐	1	2	3	4	5
Unknown	Was very careless in checking and passed on material containing numerous serious errors.	Checked inadequately and passed on material containing an important error.	Checked material so that it contained no important errors when passed on.	Checked carefully so that material passed on contained only a few minor errors.	Checked thoroughly so that material passed on was free from error.

7. WRITING LETTERS AND REPORTS

☐	1	2	3	4	5
Unknown	Wrote such a poor letter or report that someone else had to rewrite it.	Wrote an acceptable letter or report only after receiving extensive suggestions for revision.	Wrote a satisfactory letter or report.	Wrote a good letter or report which was clear and well expressed.	Wrote a superior letter or report which was exceptionally clear and well expressed.

8. GETTING COOPERATION

☐	1	2	3	4	5
Unknown	Antagonized those whose support was essential to his project.	Made no attempt to get the cooperation of those concerned with his project.	Got cooperation on important matters from most of those concerned with his project.	Got cooperation in all phases of his project by dealing tactfully with those concerned.	Enlisted the full and active support of all concerned with his project through his tactful and persuasive manner.

9. PRESENTING FINISHED WORK

☐	1	2	3	4	5
Unknown	Presented his findings in such a disorganized form that they gave no basis for a decision.	Presented his findings in such form that they gave only an incomplete basis for a decision.	Presented his findings so that it was possible for his superior to make a decision after organizing the materials.	Presented his findings in such form that his superior could locate the information needed to make a decision.	Presented fully documented findings so organized that his superior could decide quickly and with confidence.

10. KEEPING RECORDS

☐	1	2	3	4	5
Unknown	Failed to keep necessary records on his work.	Kept inadequate, poorly organized, or unnecessary records on his work.	Kept fairly adequate records on his work.	Kept generally satisfactory records on his work.	Maintained a well-organized system of keeping essential records accurately.

11. KEEPING OTHERS INFORMED (See also **IV-41**)

☐	1	2	3	4	5
Unknown	Failed to give crucial information regarding activities and developments to appropriate persons.	Neglected to inform appropriate persons of important activities and developments.	Informed those concerned about the most important activities and developments in his work.	Kept appropriate persons generally well-informed about activities and developments.	Kept appropriate persons thoroughly and suitably briefed on all activities and developments.

II. PROFICIENCY IN SUPERVISING PERSONNEL

12. MATCHING PERSONNEL AND JOBS

☐	1	2	3	4	5
Unknown	Assigned a subordinate to a job that was obviously unsuited to his abilities.	Assigned work to a subordinate that made incomplete use of his abilities.	Made an assignment which showed some consideration of both the requirements of the job and capabilities of the subordinate.	Made good use of a subordinate by assigning him a job that matched his abilities quite well.	Matched the capabilities of a subordinate very accurately with the requirements of the job.

13. DELEGATING AUTHORITY

☐	1	2	3	4	5
Unknown	Made improper or inadequate delegation of authority resulting in a serious loss of efficiency.	Made overlapping or vague delegation of authority resulting in reduced efficiency.	Delegated authority sufficiently well to obtain a fair degree of efficiency.	Delegated authority so well that adequate efficiency was assured.	Made a very suitable and clear-cut delegation of authority resulting in a high degree of efficiency.

14. GIVING ORDERS AND INSTRUCTIONS (See also **V-51**)

☐	1	2	3	4	5
Unknown	Created hostility in a subordinate by the arbitrary or abusive manner with which he gave an order or made a correction.	Obtained grudging submission to an order or correction by his reliance on authority alone.	Obtained compliance without arousing antagonism when giving an order or correcting a mistake.	Achieved willing compliance by considering the self-respect of a subordinate when giving an order or correcting a mistake.	Inspired enthusiastic cooperation by the use of tact in giving an order or correcting a mistake.

15. INSURING COMPREHENSION

☐	1	2	3	4	5
Unknown	Failed to make any check on a subordinate's understanding of instructions.	Made inadequate checks on a subordinate's understanding of instructions.	Made sure that a subordinate understood the major points of his instructions.	Checked a subordinate's understanding of instructions and gave further explanation where needed.	Tested understanding of instructions with great care so that subordinate knew in detail what he was supposed to do.

16. GIVING REASONS AND EXPLANATIONS

☐	1	2	3	4	5
Unknown	Failed to explain to a subordinate the reasons for an assignment or unusual conditions when such explanation would have increased effectiveness.	Gave a subordinate an inadequate explanation of the reasons for an assignment or unusual conditions.	Gave a subordinate a fairly adequate explanation of the reasons for an assignment or unusual conditions.	Gave a subordinate a good explanation of the reasons for a situation or an assignment, resulting in increased effectiveness.	Gave a very clear and complete explanation of the reasons for a situation or an assignment which stimulated him to maximum efficiency.

17. EXPLAINING IMPORTANCE OF JOB

☐	1	2	3	4	5
Unknown	Took no action to prevent a subordinate from feeling his contribution was insignificant.	Gave a subordinate an inadequate or unconvincing explanation of the importance of his job.	Gave a subordinate an adequate explanation of the importance of his job.	Stimulated a subordinate's interest by giving him a good explanation of the importance of his job.	Inspired a subordinate by explaining skillfully and convincingly the importance of his job.

18. SUPPORTING AUTHORIZED ACTIONS

☐	1	2	3	4	5
Unknown	Disclaimed responsibility for a subordinate's action taken under authority which he had delegated to him.	Did not support an action taken under authority he had delegated to a subordinate.	Backed up an action taken with his prior approval by a subordinate.	Backed up an action taken under the general authority delegated to a subordinate.	Backed up a subordinate's action even when he appeared to have exceeded the authority delegated to him.

19. ENCOURAGING IDEAS (See also **I-5**)

☐	1	2	3	4	5
Unknown	Belittled the ideas and suggestions of a subordinate.	Paid little attention to the ideas and suggestions of a subordinate.	Considered carefully the ideas and suggestions submitted by a subordinate.	Encouraged subordinates to submit ideas and suggestions.	Solicited the ideas and suggestions of subordinates in a systematic manner.

20. INCREASING RESPONSIBILITY

☐	1	2	3	4	5
Unknown	Failed to increase the responsibilities of a subordinate capable of much more advanced work.	Gave increased responsibility only under pressure to a subordinate capable of more advanced work.	Increased a subordinate's responsibility when he had demonstrated his ability to assume it.	Gave a subordinate an opportunity to demonstrate he could assume increased responsibility.	Systematically provided opportunity for a subordinate to demonstrate he could assume increased responsibility.

21. MOTIVATING THROUGH COMPETITION

☐	1	2	3	4	5
Unknown	Failed to use competitive methods where they would have increased his organization's efficiency.	Made inadequate use of competitive methods to increase his organization's efficiency.	Made adequate use of competitive methods to increase the efficiency of his organization.	Made good use of competitive methods to stimulate subordinates to increased efficiency.	Used competitive methods with great skill to achieve a high level of efficiency among subordinates.

22. DEVELOPING TEAMWORK (See also **IV-41**)

☐	1	2	3	4	5
Unknown	Neglected the development of cooperation and teamwork among his subordinates.	Made little effort to develop cooperation and teamwork among his subordinates.	Developed adequate cooperation and teamwork among his subordinates.	Developed good teamwork which increased the effectiveness of the organization.	Developed outstanding teamwork which resulted in a very effective organization.

23. SETTING A GOOD EXAMPLE (See also **V-50**)

☐	1	2	3	4	5
Unknown	Set a very bad example for his subordinates in his own work.	Set a rather poor example for his subordinates in his own work.	Set a satisfactory example for his subordinates in his own work.	Set a good example for his subordinates in his own work.	Set an excellent example for his subordinates in his own work.

24. ASSISTING SUBORDINATES IN THEIR WORK

☐	1	2	3	4	5
Unknown	Refused to assist a subordinate in his work when specifically requested to do so.	Showed little interest in a subordinate's progress or need for assistance.	Kept informed regarding the status of a subordinate's work and gave assistance when requested.	Kept informed regarding a subordinate's progress and encouraged him to ask for assistance.	Kept fully informed regarding a subordinate's progress and voluntarily assisted him whenever possible.

25. EVALUATING SUBORDINATES' WORK

☐	1	2	3	4	5
Unknown	Made gross misjudgments in evaluating the quality of a subordinate's work.	Made only incomplete and sketchy evaluations of a subordinate's work.	Distinguished adequately between good and poor work of a subordinate.	Evaluated the work of a subordinate fairly and accurately.	Made exceptionally fair and impersonal evaluations of a subordinate's work.

26. LOOKING OUT FOR SUBORDINATES' WELFARE (See also **IV-43**)

☐	1	2	3	4	5
Unknown	Disregarded the needs and welfare of his subordinates.	Paid little attention to the needs and welfare of his subordinates.	Looked after the welfare of his subordinates adequately.	Took special pains to help subordinates and promote their welfare.	Left no stone unturned in his efforts to assist subordinates and improve their welfare.

27. MAINTAINING RELATIONS WITH SUBORDINATES

☐	1	2	3	4	5
Unknown	Was unable to control his subordinates because of excessive social familiarity with them.	Maintained discipline and the respect due an officer in his position with difficulty because of undue familiarity with subordinates.	Maintained friendly relations with subordinates without loss of discipline or the respect due his position.	Associated with subordinates in a manner which added to their respect for him as a superior officer.	Attained a high level of discipline and respect from subordinates through his friendly but reserved conduct toward them.

III. PROFICIENCY IN PLANNING, INITIATING, AND DIRECTING ACTION

28. TAKING RESPONSIBILITY

☐	1	2	3	4	5
Unknown	Failed to assume a major responsibility specifically assigned to him.	Avoided having to accept an added responsibility.	Accepted a responsibility when specifically assigned.	Shared another's responsibility when necessary to achieve an objective.	Assumed full responsibility for achieving an essential objective even when not specifically assigned.

29. SOLVING PROBLEMS

☐	1	2	3	4	5
Unknown	Failed to solve a problem commonly encountered in his work.	Failed to solve an unusual problem he could reasonably be expected to handle successfully.	Solved a routine problem by making full use of existing resources.	Solved an unusual problem by making an adaptation of existing resources.	Solved a very difficult or unusual problem by ingenious and resourceful procedures.

30. MAKING USE OF EXPERIENCE (See also VI-56)

☐	1	2	3	4	5
Unknown	Made no application of his own or others' experience in similar work resulting in unnecessary delays and errors.	Failed to make adequate application of his own or others' experience resulting in a loss of effectiveness.	Made some application of his own or others' experience to assist him on a problem.	Made good use of his own or others' experience to work out a problem.	Applied his own and others' experience to the fullest extent in the solution of a problem.

31. LONG-RANGE PLANNING

☐	1	2	3	4	5
Unknown	Failed to prepare plans to guide the organization's work.	Prepared only inadequate plans based on a sketchy understanding of the objectives.	Prepared plans based on only the immediate objectives of the organization.	Prepared careful plans based on a full understanding of all the objectives.	Developed very effective long-range plans based on a thorough analysis of all objectives and of means of reaching them.

32. TAKING PROMPT ACTION

☐	1	2	3	4	5
Unknown	Refused to act when a decision was urgently needed.	Hesitated or put off making a needed decision although possessed of all essential facts.	Took necessary action without serious delay.	Took prompt action to meet an established need.	Took prompt action to meet a legitimate need even though he might have delayed.

33. SUSPENDING JUDGMENT

☐	1	2	3	4	5
Unknown	Refused to wait for or examine essential additional facts before deciding.	Failed to request or examine needed additional facts before deciding.	Decided only after he had been supplied with some additional information.	Withheld his decision on an important matter until the main additional facts needed could be examined.	Insisted in spite of strong pressure on obtaining needed additional facts before making an important decision.

34. MAKING CORRECT DECISIONS

☐	1	2	3	4	5
Unknown	Made a bad decision which appeared quite contrary to the known facts.	Made a serious error in judging the relative importance of several factors in deciding.	Made an adequate decision based on a reasonable interpretation of the facts.	Made a good decision showing sound evaluation of all the factors involved.	Made an excellent decision which exactly fitted all the factors involved.

35. PERSISTING IN EFFORTS

☐	1	2	3	4	5
Unknown	Gave up as soon as he met opposition or difficulties in pursuing an objective.	Gave up after a few attempts had failed.	Kept on working toward an objective of the organization despite minor difficulties or opposition.	Renewed his efforts after a major set-back in pursuing an objective of the organization.	Persisted in his efforts to achieve an objective of the organization despite repeated set-backs or severe opposition.

36. MAKING FORCEFUL EFFORTS

☐	1	2	3	4	5
Unknown	Made very feeble and ineffectual efforts to achieve an objective.	Made only weak and partially effective efforts to achieve an objective.	Was somewhat vigorous and forceful in his efforts to achieve an objective.	Pursued an objective of the organization with energy and force.	Made very vigorous and forceful efforts to achieve an objective.

37. ABSORBING MATERIALS

☐	1	2	3	4	5
Unknown	Delayed operations because of his poor memory or the slowness with which he absorbed facts.	Made a mistake due to slow learning or faulty memory for facts.	Learned and remembered well enough to do a satisfactory job.	Achieved good results because he learned or recalled facts better than others.	Achieved exceptional results because of his unusual ability to learn and remember pertinent information.

IV. ACCEPTANCE OF TEAM PRINCIPLE AND ORGANIZATIONAL DISCIPLINE

38. COMPLYING WITH ORDERS AND DIRECTIVES

☐	1	2	3	4	5
Unknown	Disobeyed an order or directive.	Delayed or tried to avoid compliance with an order or directive.	Complied satisfactorily with an order or directive without undue delay.	Carried out an order or followed a directive promptly.	Carried out promptly and effectively the spirit and intent of an order or directive.

39. ACCEPTING ORGANIZATIONAL PROCEDURE

☐	1	2	3	4	5
Unknown	Violated an organizational procedure or regulation.	Was openly critical of and followed only partially an organizational procedure.	Conformed without open criticism to an organizational procedure with which he had previously expressed disagreement.	Accepted a procedure fully because he understood the necessity for organizational control.	Accepted and promoted understanding of a procedure as essential to effective organizational control.

40. SUBORDINATING PERSONAL INTERESTS (See also **V-49**)

☐	-1	2	3	4	5
Unknown	Allowed personal interest and welfare to interfere seriously with performance of duty.	Made excessive use of the privileges of his rank to increase personal comfort or avoid inconvenience.	Accepted minor personal inconvenience in order to perform his duties.	Subordinated personal desires to the performance of duty.	Disregarded personal welfare and interests completely when necessary for the successful performance of duty.

41. COOPERATING WITH ASSOCIATES (See also **I-11**)

☐	1	2	3	4	5
Unknown	Refused to help or cooperate with an associate.	Cooperated only grudgingly with an associate.	Gave some assistance to an associate when requested to do so.	Cooperated willingly with an associate when called upon.	Voluntarily assisted an associate when help was needed.

42. SHOWING LOYALTY

☐	1	2	3	4	5
Unknown	Openly criticized a superior or associate.	Allowed a superior or associate to be criticized without coming to his defense.	Supported the policies or actions of a superior or associate.	Gave credit to a superior for accomplishments of the organization.	Shared any criticism or blame directed at a superior for the mistakes or shortcomings of his organization.

43. TAKING RESPONSIBILITY FOR SUBORDINATES (See also **II-26**)

☐	1	2	3	4	5
Unknown	Failed to take any responsibility for the conduct and fair treatment of a subordinate.	Took very little responsibility for the conduct and fair treatment of a subordinate.	Assumed responsibility for the conduct and fair treatment of a subordinate.	Assumed substantial responsibility for the conduct and fair treatment of a subordinate.	Assumed full responsibility for the conduct and fair treatment of a subordinate.

V. PERSONAL HABITS AND ADJUSTMENT

44. ATTENDING TO DUTY

☐	1	2	3	4	5
Unknown	Required constant prodding and close supervision to keep his attention on his assigned duties.	Worked just hard enough to get by.	Showed satisfactory industry.	Worked hard and willingly to achieve objectives.	Did extra work voluntarily in order to achieve objectives.

45. ATTENDING TO DETAILS

☐	1	2	3	4	5
Unknown	Neglected an important detail of his job with serious results.	Neglected routine details of his work, slowing up operations.	Handled satisfactorily the important details of his job.	Gave careful attention to the important details of his job.	Made sure that all details of his job were completely taken care of.

46. REPORTING FOR APPOINTMENTS

☐	1	2	3	4	5
Unknown	Failed to keep an appointment causing serious inconvenience to others.	Was late for an appointment without notifying others.	Notified others when he expected to be late for an appointment.	Made a special effort to be prompt in reporting for an appointment.	Kept an appointment in spite of substantial personal inconvenience.

47. MEETING COMMITMENTS (See also **I-3**)

☐	1	2	3	4	5
Unknown	Failed to meet a commitment hindering the work of others.	Was late in meeting a commitment causing inconvenience to others.	Met a commitment promptly and fully.	Met a commitment fully in spite of difficulties beyond his control.	Completed an assignment ahead of time and more fully than required.

48. IMPROVING EFFECTIVENESS (See also **VI-55**)

☐	1	2	3	4	5
Unknown	Refused an opportunity offered him to improve his effectiveness.	Ignored an opportunity to improve his proficiency or potentiality.	Accepted an opportunity to improve his proficiency or potentiality.	Was alert to an opportunity to improve his effectiveness.	Sought out actively an opportunity to improve his proficiency and potentiality.

49. BEING FAIR AND SCRUPULOUS (See also **IV-40**)

☐	1	2	3	4	5
Unknown	Made an inaccurate or evasive statement or indulged in a "sharp" practice.	Used an indirect and questionable method.	Was satisfactorily accurate, frank, or fair in a statement or practice.	Used a direct and forthright method.	Was scrupulously accurate, frank, or fair in a statement or practice.

50. MAINTAINING MILITARY APPEARANCE (See also II-23)

☐	1	2	3	4	5
Unknown	Appearance and bearing were so bad as to interfere seriously with his effectiveness.	Carelessness in appearance and bearing detracted somewhat from his effectiveness.	Appearance and bearing were satisfactory.	Especially good appearance and bearing created a favorable impression.	Appearance and bearing were outstanding and inspired confidence.

51. ADAPTING TO ASSOCIATES

☐	1	2	3	4	5
Unknown	Aroused animosity and conflict among associates which detracted from the organization's effectiveness.	Created some antagonism and ill-will among associates.	Maintained satisfactory relations with associates.	Developed pleasant and congenial relations with associates.	Established especially smooth and friendly relations with associates which increased his effectiveness.

52. ADAPTING TO THE JOB

☐	1	2	3	4	5
Unknown	Broke down or became entirely ineffective under the stresses of an unusual job situation.	Allowed fear, anxiety, or other emotional reaction to interfere with his effectiveness on the job.	Maintained a good emotional adjustment to the job in spite of stresses.	Worked calmly and effectively in a situation of unusual stress.	Performed outstandingly while remaining completely composed in the face of unusual demands.

53. CONFORMING TO CIVIL STANDARDS

☐	1	2	3	4	5
Unknown	Reduced his efficiency or discredited the service by noncomformity to accepted standards of personal or social conduct.	Failed to attain his full efficiency because of careless social or personal conduct.	Followed acceptable standards in his personal or social conduct.	Maintained high standards of personal and social conduct.	Achieved maximum effectiveness or was a credit to the service by maintaining high standards of personal and social conduct.

VI. PROFICIENCY IN PROFESSIONAL OR TECHNICAL SPECIALTY

54. POSSESSING FUNDAMENTAL TRAINING

☐	1	2	3	4	5
Unknown	Showed by his work that there were serious gaps in his fundamental training.	Showed by his work that his training in fundamentals had been sketchy and inadequate in certain areas.	Showed that he possessed sufficient fundamental training to do adequate work in his specialty.	Showed by his work that his training had been more than usually thorough in important fundamentals.	Demonstrated that his training in the fundamentals of his specialty was extremely thorough and well-balanced.

55. KEEPING WELL-INFORMED IN SPECIALTY (See also V-48)

☐	1	2	3	4	5
Unknown	Knew nothing of a recent development vitally important to his specialty.	Showed only meager and inaccurate knowledge of a current development in technique or equipment important to his specialty.	Demonstrated that he was generally familiar with an important current development in his specialty.	Was well-informed about an important current development in his specialty.	Demonstrated his complete familiarity with the theory and application of the latest important development in his specialty.

56. APPLYING TRAINING AND INFORMATION (See also III-30)

☐	1	2	3	4	5
Unknown	Made a serious mistake in applying a fundamental point of his training.	Was inaccurate or careless in applying his training and information to a common problem in his specialty.	Made satisfactory application of his training and information to routine duties in his specialty.	Made skillful application of his training and information to routine duties in his specialty.	Demonstrated a high degree of skill in applying his training and information to a practical problem.

57. SHOWING INGENUITY IN SPECIALTY

☐	1	2	3	4	5
Unknown	Failed to adapt the devices, techniques, or plans of his specialty to a changing situation.	Made an inadequate adaptation of devices, techniques, or plans to a changing situation.	Showed resourcefulness in adapting devices, techniques, or plans to meet a new situation.	Displayed ingenuity by adapting devices, techniques, or plans to meet a new situation.	Adapted or developed an especially ingenious device, technique, or plan which was of great value in a new situation.

58. HANDLING RELATED ASSIGNMENTS

☐	1	2	3	4	5
Unknown	Was inept at work related to but outside his immediate specialty.	Performed poorly when assigned work in a related field outside his immediate specialty.	Did satisfactory work at a related assignment outside his immediate specialty.	Showed his flexibility by doing effective work in an assignment in a related field.	Displayed great versatility by doing superior work in a related field outside his immediate specialty.

UNIVERSITY OF ILLINOIS

Development of a Report of Officer Effectiveness
Tentative Form A-21

The completion of the workbook made the development of a report form according to specifications a simple job. Unfortunately, only a little time remained between the completion of the workbook and the scheduled time for the extensive field tryout of the procedure in the Air Force. Because of this lack of time, no preliminary test could be given to the tentative report form before it was used in the field tryout. As a result several omissions and errors in the form were found at the start of the tryout which could be only partially corrected by supplementary instruction sheets to reporting officers.

In carrying out the specifications for the computing of a "raw" score by the reporting officer, a very simple system was devised to aid in this computation. While fundamentally the scoring was the addition of the value of each box checked on the report form, this was broken down into a counting of the number of marked boxes in any column and multiplying the total by the value of that column. This product and those from the other columns could be then summed for the raw score. To insure accuracy in this multiplication, the value of each column was repeated, in light-face type, at the end of each area where a score was needed. If there were no "U" boxes marked, the average "raw" score for any area could be obtained by dividing the area total by the number of items in the area. If any "U" boxes were marked, these were subtracted from the number of items in the area before the division was made. Large boxes were printed at the end of each area for the entering of stanine scores at a central office. Likewise, a grid for the summary of all stanines on the form was provided for the use of this office.

Since the evaluation of the proficiency in professional or technical specialty was specific to one specialty, the reporting officer was required to write a short description of the nature of the specialty on which he based his evaluation for that area. This description was placed in an enclosed space adjacent to the section of the report form which covered that area. This and other features of the report form can be seen in the Report of Officer Effectiveness, Tentative Form A-21, which is reproduced on the following two pages. These two pages show two sides of a single report form, again reduced in size for inclusion in this report.

Use typewriter
or print in ink

REPORT OF OFFICER EFFECTIVENESS

United States Air Force
Tentative Form A-21

Last Name	First Name	Initial	Serial No.	Grade	Arm or Service	Component	Date of Report

Period covered by this report		Command, Station, and Organization	Present principal duty assignment
From	To		

Comments of Reporting Officer: Use this space for any comments on over-all performance, extenuating circumstances, or any other information relevant to the accurate appraisal of this officer's effectiveness.

Comments of Indorsing Officer: Indicate your general agreement or specific disagreements with the evaluations marked by the Reporting Officer on the reverse side. Also report any noteworthy strengths or weaknesses to perform specialties of value to the Air Force.

Do Not Write Below This Line

	STANINE											
	1	2	3	4	5	6	7	8	9			
I. HANDLING ADMINISTRATIVE DETAILS AND PLANS												
II. SUPERVISION OF PERSONNEL												
III. PLANNING, INITIATING, AND DIRECTING ACTION												
IV. ACCEPTANCE OF TEAM PRINCIPLE AND ORGANIZATIONAL DISCIPLINE												
V. PERSONAL HABITS AND ADJUSTMENT												
VI. PROFESSIONAL AND TECHNICAL PROFICIENCY												

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1 FEB. 48

			From	To
Last Name	First Name	Initial	Serial Number	Period Covered by Report

INSTRUCTIONS: Place an "X" in the appropriate box to denote your evaluation of the performance of this officer with respect to the critical requirements listed below. The six columns of boxes correspond to the unknown box and the five numbers on each scale in the **Check List of Critical Requirements for Officer Evaluation, Form A-22.**

I PROFICIENCY IN HANDLING ADMINISTRATIVE DETAILS AND PLANS

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	1 Understanding instructions
☐	☐	☐	☐	☐	☐	2 Planning work
☐	☐	☐	☐	☐	☐	3 Scheduling work
☐	☐	☐	☐	☐	☐	4 Getting information from records
☐	☐	☐	☐	☐	☐	5 Getting ideas from others
☐	☐	☐	☐	☐	☐	6 Checking accuracy of work
☐	☐	☐	☐	☐	☐	7 Writing letters and reports
☐	☐	☐	☐	☐	☐	8 Getting cooperation
☐	☐	☐	☐	☐	☐	9 Presenting finished work
☐	☐	☐	☐	☐	☐	10 Keeping records
☐	☐	☐	☐	☐	☐	11 Keeping others informed

1 2 3 4 5 (Do not use this space) ☐

II PROFICIENCY IN SUPERVISING PERSONNEL

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	12 Matching personnel and jobs
☐	☐	☐	☐	☐	☐	13 Delegating authority
☐	☐	☐	☐	☐	☐	14 Giving orders and instructions
☐	☐	☐	☐	☐	☐	15 Insuring comprehension
☐	☐	☐	☐	☐	☐	16 Giving reasons and explanations
☐	☐	☐	☐	☐	☐	17 Explaining importance of job
☐	☐	☐	☐	☐	☐	18 Supporting authorized actions
☐	☐	☐	☐	☐	☐	19 Encouraging ideas
☐	☐	☐	☐	☐	☐	20 Increasing responsibility
☐	☐	☐	☐	☐	☐	21 Motivating through competition
☐	☐	☐	☐	☐	☐	22 Developing teamwork
☐	☐	☐	☐	☐	☐	23 Setting a good example
☐	☐	☐	☐	☐	☐	24 Assisting subordinates in their work
☐	☐	☐	☐	☐	☐	25 Evaluating subordinates' work
☐	☐	☐	☐	☐	☐	26 Looking out for subordinates' welfare
☐	☐	☐	☐	☐	☐	27 Maintaining relations with subordinates

1 2 3 4 5 (Do not use this space) ☐

III PROFICIENCY IN PLANNING, INITIATING, AND DIRECTING ACTION

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	28 Taking responsibility
☐	☐	☐	☐	☐	☐	29 Solving problems
☐	☐	☐	☐	☐	☐	30 Making use of experience
☐	☐	☐	☐	☐	☐	31 Long-range planning
☐	☐	☐	☐	☐	☐	32 Taking prompt action
☐	☐	☐	☐	☐	☐	33 Suspending judgment
☐	☐	☐	☐	☐	☐	34 Making correct decisions
☐	☐	☐	☐	☐	☐	35 Persisting in efforts
☐	☐	☐	☐	☐	☐	36 Making forceful efforts
☐	☐	☐	☐	☐	☐	37 Absorbing materials

1 2 3 4 5 (Do not use this space) ☐

IV ACCEPTANCE OF TEAM PRINCIPLE AND ORGANIZATIONAL DISCIPLINE

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	38 Complying with orders and directives
☐	☐	☐	☐	☐	☐	39 Accepting organizational procedure
☐	☐	☐	☐	☐	☐	40 Subordinating personal interests
☐	☐	☐	☐	☐	☐	41 Cooperating with associates
☐	☐	☐	☐	☐	☐	42 Showing loyalty
☐	☐	☐	☐	☐	☐	43 Taking responsibility for subordinates

1 2 3 4 5 (Do not use this space) ☐

V PERSONAL HABITS AND ADJUSTMENT

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	44 Attending to duty
☐	☐	☐	☐	☐	☐	45 Attending to details
☐	☐	☐	☐	☐	☐	46 Reporting for appointments
☐	☐	☐	☐	☐	☐	47 Meeting commitments
☐	☐	☐	☐	☐	☐	48 Improving effectiveness
☐	☐	☐	☐	☐	☐	49 Being fair and scrupulous
☐	☐	☐	☐	☐	☐	50 Maintaining military appearance
☐	☐	☐	☐	☐	☐	51 Adapting to associates
☐	☐	☐	☐	☐	☐	52 Adapting to the job
☐	☐	☐	☐	☐	☐	53 Conforming to civil standards

1 2 3 4 5 (Do not use this space) ☐

VI PROFICIENCY IN PROFESSIONAL AND TECHNICAL SPECIALTY

(Fill out with reference to the professional or technical specialty in which the officer is principally engaged. In the box below specify the nature of the specialty and its MOS.)

U	1	2	3	4	5	
☐	☐	☐	☐	☐	☐	54 Possessing fundamental training
☐	☐	☐	☐	☐	☐	55 Keeping well-informed
☐	☐	☐	☐	☐	☐	56 Applying training and information
☐	☐	☐	☐	☐	☐	57 Showing ingenuity in specialty
☐	☐	☐	☐	☐	☐	58 Handling related assignments

1 2 3 4 5 (Do not use this space) ☐

I CERTIFY that to my best knowledge and belief all entries hereon are true and impartial.

(Signature of Reporting Officer, Grade and Organization)

CHAPTER V

FIELD TRYOUT OF THE EVALUATION PROCEDURE

Introduction

A completely satisfactory test of an evaluation procedure lies in its adoption and use over a period of years. Only then can the question of its adequacy to evaluate officers correctly be answered with finality because only then can the estimates of effectiveness given be compared with the actual effectiveness which officers have shown in later years. Regardless of the theoretical advantages of any procedure to meet this final test, it must first be shown that it is practical for adoption. Because of its emphasis on the critical parts of the job and the construction of the standard forms in terms of their most probable administrative uses, the procedure developed in this project was one which theoretically could pass this test. There remained, however, the question of its immediate practicability. Would the procedure work? This question was faced and answered by the planning and the executing of an extensive field tryout of the tentative forms of the procedure on 2237 officers who were serving their probationary periods as regular officers in the United States Air Force.

The primary aim of the field tryout was to obtain the reactions of officers to the use of the evaluation procedure and to get their suggestions for the improvement of the tentative forms. This aim was considered most important because it was realized that an evaluation procedure which is disliked or disapproved of by the officers required to use it would be improperly followed upon adoption regardless of its merit as a theoretically accurate procedure. From the statistical information gained in the tryout, a number of secondary aims could be realized. The possibility of making further reductions in the number of items could be explored; the accuracy of the proposed method for scoring the report form by the reporting officer could be tested; and the uses of the workbook in following out the procedure could be examined.

General Plan of the Field Tryout

A fundamental principle of the field tryout of the tentative forms was that it be conducted almost exclusively by the operating personnel of the Air Force and not by staff members of the American Institute for Research. Despite the opportunity and temptation to give special help or additional interpretation of instructions to officers while they were using the procedure to make actual evaluations, this was not done. Instead, the Institute confined its efforts to recommending general plans for the tryout and left the details for carrying out these plans to project officers in the nine major continental commands and to the officers-in-charge appointed at the different stations and components within these commands. Thus, the influence of the Institute on the tryout was sufficient to see that an answer would be given to the question of whether or not the procedure was practical yet insufficient to affect any particular

evaluation made with that procedure.

The general plan for an adequate field tryout was outlined and discussed with a group of officers attending an Air Force Personnel Conference at Orlando Air Force Base in February, 1948. At this time, quotas of the number of probationary officers to be evaluated were decided upon for each major command. These quotas, in turn, were reallocated by a project officer in each major command to various subcommands and stations. As a result the field tryout was conducted on all the different levels or eschelons of the Air Force within the continental United States.

The selection of the officers-in-charge of the tryout at the stations was also done by the project officers. In most cases, the officer-in-charge turned out to be the personnel officer ordinarily in charge of officer efficiency reports at his station. These officers were given the responsibility of selecting and properly indoctrinating the reporting officers at their respective stations on the use of the evaluation procedure, on any administrative rules for the tryout established by the project officer of the major command concerned, and on the specific method for selecting the probationary officers on whom to render a Report of Officer Effectiveness, Tentative Form A-21. The reporting officers were selected from as many different organizations at a station as possible. The only restriction placed on the selection of sufficient reporting officers to fill the sub-quota at any station was that all of them must be direct supervisors of two or more probationary officers who had served under their immediate supervision for at least sixty days. This restriction was necessary so that each reporting officer could participate in both phases of the tryout planned at each station.

The field tryout was planned in two phases. In the first phase, a reporting officer rendered an immediate report on the effectiveness of one of two probationary officers under his supervision. In the second phase, a report was rendered on the other officer after he had been observed closely over a one-month period. The officer evaluated in the first phase was judged on how he had met the critical requirements of his job during the past 60 to 180 days while the officer evaluated in the second phase was judged on how he was observed to meet these requirements over a 30-day reporting period. Thus, the first phase tested the procedure as a single record type of effectiveness report in which the Check List of Critical Requirements for Officer Evaluation, Tentative Form A-22, was used as a manual or guide to help the reporting officer decide on how well the requirements had been met. The second phase tested the procedure using Form A-22 as a workbook in which the reporting officer recorded his observations of effective or ineffective performance by the officer being evaluated.

In order to obtain representative samples for testing the procedure these two ways, it was necessary to insure that the officers evaluated in the two phases of the tryout were not selected because of any undue or unequal familiarity of the reporting officers with their performance or work. Therefore, a specific method for the selection

of these officers was recommended and followed in all the participating commands. Each reporting officer was required first to select the two probationary officers holding the highest temporary rank or grade from among all such officers under his supervision. After these two officers had been selected, the one with the lower officer serial number was evaluated in the first phase of the tryout and the one with the higher serial number was evaluated in the second phase.

The Report of Officer Effectiveness, Tentative Form A-21 was used to submit evaluations in both phases. The immediate superior of the reporting officer acted as the indorsing officer for these reports. After an indorsing officer had added his comments to the Form A-21, completed and scored by the reporting officer, it was transmitted to the officer-in-charge at the station concerned. All the reports from each phase at any station were then forwarded, through command channels, to the A-1 Division of the major command. From there, the reports were sent to the American Institute for Research for processing and analyzing.

A variation in the general plan for the tryout was introduced in the evaluations made in the Air Defense Command. Instead of having each reporting officer evaluate two different probationary officers, the same officer was evaluated twice: once on his performance over the past 60-180 days, and again at the end of a 30-day observation period. The officer selected for evaluation under this variation was the highest ranking officer among all probationary officers under the immediate supervision of the reporting officer. By means of this variation, a further check could be made on the effect of the use of the Form A-22 as a guide and as a record of observations for a reporting period.

After getting prior approval of the Institute, another variation was instituted in the general plan of the tryout by the Tactical Air Command. On all the Form A-21's used at stations within this Command, two standard paragraphs were mimeographed in the space for the comments of the reporting officer. The paragraphs called for a type of over-all evaluation by the reporting officer in addition to his evaluations on the 58 items of the regular form. These paragraphs were:

> 1. If offered a choice between this officer and other officers for assignment as a member of my command, I would: (Check appropriate square) / / Not want him. / / Take a chance on him. / / Be happy to have him. / / Prefer him to most. / / Fight to get him.
>
> 2. Of all the officers, of the same grade and experience known to me, I would rate him in the following percentage group: (1st 20% lowest, etc.)

1st 20%	2nd 20%	3rd 20%	4th 20%	5th 20%

This variation permitted a comparison to be made between the over-all

evaluations as expressed by the reporting officer in this section of the report and an over-all evaluation which resulted from the scoring of the judgments made on how well the critical requirements were met.

A manual of instructions and several supplementary instruction sheets were distributed to the officers-in-charge and to the reporting officers at the start of the tryout. The manual outlined some of the research done on the critical requirements in addition to giving general instructions on how to use and to score the tentative forms. The supplementary instruction sheets dealt with specific variations in the plan for the tryout within certain major commands and with the corrections of omissions and errors in the Form A-21.[1] (As mentioned earlier, this form was not pre-tested before its use in the tryout because of a lack of time.)

To accomplish the primary aim of the tryout--obtaining the reactions and suggestions of officers on the use of the procedure, a special "Comment Sheet for Reporting and Indorsing Officers" was distributed toward the end of the second phase of the tryout. In designing this comment sheet, care was taken to avoid biasing in any way the type of reply or kind of comments which any officer might make by asking "leading" questions. In one form of the comment sheet, no questions were asked. This sheet merely provided space for any kind of comments under a heading of "Reactions, Comments, and Suggestions." In another form of the comment sheet distributed, only three general questions were asked in addition to the space for completely free answers. These three questions asked for any suggestions the officer might have for the addition of items to the tentative forms, for suggestions for the deletion of any items on the forms, and for accounts of any difficulties experienced in the use of the procedure during the tryout. In order to elicit the most candid, and thus the most helpful comments, it was recommended that all comment sheets be returned directly to the American Institute for Research by the officers filling them out instead of sending them through regular military channels for review. This recommendation was adopted in all the major commands.

Results from the Field Tryout

The number of reports of officer effectiveness which were completed during the two phases of the tryout can best be summarized for the nine major commands in the simple table shown on the following page. These reports came from 75 different stations and included evaluations of officers within 256 different organizations at those stations. The smaller number of returns for the second phase was due to transfers and reassignments of either reporting officers after they had participated in the first phase, or of the probationary officers before the end of the 30-day reporting period. The proportion of returns from the major commands did not correspond to the proportionate officer strength of these commands. This was due to the restriction

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[1] See Technical Appendices and Notes, Appendix E, for copies of these instructions.

that all reporting officers must have at least two probationary officers under their immediate supervision. In those commands where the officer strength was widely distributed among a number of small stations, this restriction limited the number of officers who could participate in the tryout. This was taken into consideration when quotas were assigned.

Major Command	First Phase	Second Phase	Total
Air Defense Command	171	153	324
Air Materiel Command	165	158	323
Air Training Command	200	203	403
Air Transport Command	82	81	163
Air University	62	56	118
Chief of Staff	71	64	135
Headquarters Command USAF	21	19	40
Tactical Air Command	187	179	366
Strategic Air Command	205	160	365
Total	1164	1073	2237

As these returns were received, the scoring done by the reporting officers was checked for accuracy. If reporting officers made many errors in computing these scores, then either the method of scoring would have to be simplified still more or personnel at the central agency would have to disregard any previous scoring on a report and compute both a "raw" and a stanine score. It was found that almost 17% of all reports had an error of some sort in their scoring by reporting officers. A further analysis showed that 56% of all errors were made in adding the totals of the columns to get a score for the different areas of effectiveness. Since this addition was made with figures arranged horizontally on the report form, some rearrangement of the report form might reduce the number of errors in addition. It was, however, impossible to find an operation for scoring which would be simpler than counting the number of boxes marked in the columns of the report. Yet 27% of all errors were made in this simple operation. The remaining 17% of the errors were found to be in the multiplication of the totals in the columns by the value of the columns. Since the feature of a "raw" score for the information of the reporting and indorsing officers was included in the tentative forms at the request of many officers, it seemed unwise to eliminate the feature because of mistakes made in computations by these officers. However, the results of the tryout quite definitely showed that all "raw" scores must be recomputed at the central agency before stanine scores may be assigned for the effectiveness of the officer reported upon.

The results from the variation in the tryout at the Tactical Air Command could not be taken as conclusive of a need for a personal over-all rating of an officer by his reporting officer since the tryout was not designed to include a specific test of this need. It was found

that the officers with the high scores on the critical requirements tended to be the ones placed in the highest 20% category by reporting officers and to be the ones for whom their reporting officers would "fight to get." Such a relationship would necessarily be expected since the two techniques were not applied independently. The over-all evaluations were made by the same reporting officer on the same report form after he had had an opportunity to study the scores he had given on the critical requirements. However, an analysis of the relationships between the over-all evaluations given and the scores made on the separate areas of officer effectiveness was suggestive of the kinds of officer performance which seem to weigh most heavily in personal, over-all evaluations.[2] On the basis of the coefficients of correlation between positions in the over-all ratings and scores on the critical requirements in the areas of officer effectiveness, the areas on the ability to plan, initiate and direct action, and on the ability to handle administrative details and plans were most closely related to the over-all evaluations. All six areas were positively correlated with these evaluations, but those on the ability shown in the officer's particular specialty and on the officer's attitude toward the organization were the lowest.

The rank or grade of the officers evaluated in the first and second phases of the tryout was of interest since the method of selecting officers for these two phases was designed to result in groups which would be reasonably similar in composition. Although the size of the two groups differed slightly, statistical tests showed that when this difference in size was taken into consideration, the groups were equivalent as far as officer grade was concerned. This can be seen in Figure III, (p. 61) which presents the percent of officers in each grade for each phase of the tryout. The results from the Air Defense Command were not included since the same probationary officer was evaluated in both phases of the tryout in that Command.

When the reports of officer effectiveness were analyzed, it was found that from a statistical point-of-view the procedure worked equally well in both phases. Slightly lower average scores for the six areas of effectiveness were made by officers evaluated in the first phase when the Form A-22 was used as a detailed manual for a single record than in the second phase when the A-22 was used as a workbook for recording frequent observations. The slight difference between scores in the two phases might be attributed to the different lengths of the reporting periods in the phases. The findings, however, tend to disprove an objection about recording observations in a workbook which was raised by several officers before the tryout. Their objection was that the recording of observations over a reporting period would result in lower scores on the final report forms, not because of any more systematic observing of performances by the reporting officers but because only the poorer performances would be recorded in the workbook while the better performances would be taken for granted by the reporting

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[2] For the results of the detailed statistical analysis, see Technical Appendices and Notes, Appendix F.

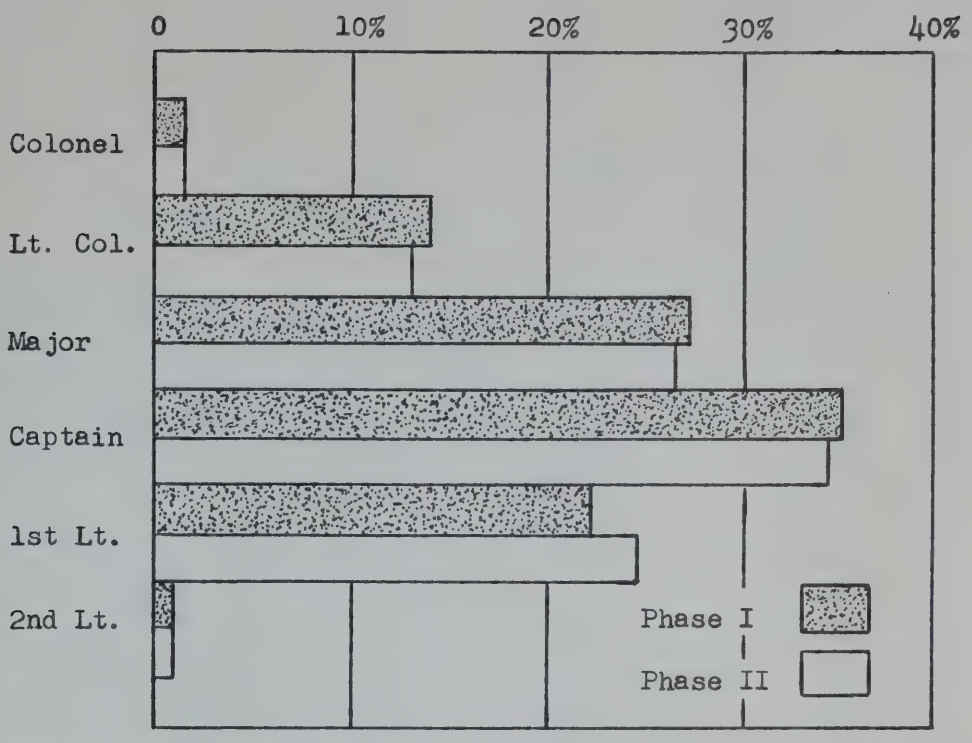

FIGURE III. PERCENT OF OFFICERS BY GRADE IN FIRST AND SECOND PHASES OF FIELD TRYOUT. (All Major Commands except Air Defense Command)

officers and not recorded. Then at the time for the final report, the workbook would show only poor performances which would overemphasize their importance. At least for the short reporting period of the second phase of the tryout, this was not found to be true.

When it was impossible to schedule a tryout with two reporting periods of equal length, an adequate test could not be made of one of the theoretical advantages for recording observations throughout a reporting period. This advantage was that fewer critical requirements would be marked "unobserved" on a final report of effectiveness if the reporting officer kept a record of his observations and made special efforts to observe performances with respect to those requirements for which he found he had insufficient evidence for a judgment of effectiveness. This advantage could be phrased as a hypothesis for testing as follows: All other things being equal, the percentage of items marked "U" on the final report form, A-21, will be less when the A-22 is used as a workbook to record observations than when used as a manual. Since the reporting periods for the two phases of the field tryout were unequal, this hypothesis could not be disproved since a larger percentage of "U" boxes checked on the reports from the second phase when observations were recorded might be due to the shorter reporting period covered by that

phase. While the hypothesis could not be disproved by the results of this tryout, it would have been supported if the percentage of "U" boxes checked in the longer, first phase had been either equal to or greater than those checked in the shorter, second phase. Such support was not found in the analysis of the results. The percentage of "unobserved" items was higher in the second phase than in the first. Of all the boxes checked on the reports from the first phase, 5% were "U" boxes; 7% were so checked on the reports from the second phase.

Both the findings on higher scores and percentage of unobserved items in the second phase were based upon the returns from seven out of the eight major commands. The separate analysis of the returns from the Air Defense Command, where the same officers were evaluated in both phases, gave similar findings. Officers in this Command also tended to receive higher scores on their second reports for a 30-day period than on their first reports for a 6-month reporting period. Also more unobserved items were indicated on the second reports. In this Command, the same or higher scores were expected on the second reports since it was thought probable that reporting officers would tend to justify judgments made on the single record of the first phase with supporting evidence of recorded observations made during the second phase. It was to avoid this possible tendency that the tryout in all other commands was planned with the evaluation of different officers in the two phases. A comparison of the results from these other commands with those from the Air Defense Command showed that this precaution in planning had been unnecessary.

The response of officers in commenting on the tentative forms was most gratifying. Seven hundred and sixty-seven comment sheets were returned directly to the American Institute for Research by reporting and indorsing officers who had participated in the field tryout. The size of this voluntary effort was interpreted as evidence of the great interest of officers in the problem of evaluation and in attempts to solve that problem. Since officers had been asked to make any suggestions they had for officer evaluation in general as well as for the improvement of the tentative forms, a number of the comments applied more to existing ways of evaluating officers or to general policy than to the specific procedure tested. It is impossible in this report to do more than give a general summary of the comments and suggestions made. All comment sheets were carefully analyzed before they were turned over to the Air Force for further study.

The suggestions which pertained to the tentative forms may be grouped into a table by whether their adoption would increase the size of the tentative forms, reduce their size, or change the scaling of the items in some way. The figures in the following table (p. 63) include all suggestions, many of them duplicates. The number of different suggestions on the 767 comment sheets was much smaller. As can be seen in this table, certain suggestions contradicted other suggestions. While a few officers who suggested adding specific items also suggested the elimination of others, this was usually not the case. Most of the suggestions for non-numerical sections dealt with the addition to the report form of a space where the reporting officer could express his

Suggestions	Number of Suggestions
For increasing the size of the tentative forms	
by adding specific items	169
by expanding Area VI	25
by adding non-numerical sections	140
Total	334
For decreasing the size of the tentative forms	
by eliminating specific items	43
by combining 2 specific items	40
by combining 3 specific items	6
by arbitrarily limiting the number of items	49
Total	138
For changing the scaling of items	
on specific items	31
on all items	86
Total	117
GRAND TOTAL	589

opinion of the over-all value to the organization or to the Air Force of the officer being evaluated. Other suggestions were for space for the reporting and indorsing officers to indicate their recommendations for training and assignments and for an entry showing the official status of the reporting officer to the officer being evaluated. The suggestions for the expansion of Area VI, the area covering proficiency in professional and technical specialty, were usually general suggestions to make the items more specific to a particular specialty such as pilot, weather observer, or instructor. Also, it was suggested that this area be restricted to performance in the "duty" military occupational specialty.

With the exception of those suggestions for arbitrarily reducing the number of items to either some particular number or percent of those in the tentative forms, the suggestions for the reductions of items could be appraised by the statistical technique of intercorrelation of the scores made on these items in the tryout. For example in Area I, suggestions were made that items on planning of work and scheduling of work were so similar that one of them might be eliminated. Similar suggestions were made about two other items in this area: getting information from records, and getting ideas from others. By correlating the scores assigned officers on these items in the field tryout, it was found that officers who received high scores in planning their work also tended to receive high scores in scheduling. The relationship between these scores was not as close as perhaps the officers making the suggestion would have thought, but close enough to provide support for the suggestion. By the

same test of relationship, getting information from records and getting ideas from others were found to be only slightly related items. Other specific suggestions for the elimination or combining of items were similarly appraised by correlating the scores on these items. In addition to the correlation technique, consideration was given to the frequency in the use of the "U" boxes and the amount of "scatter" in the scores on items. It was found that in addition to planning work, items on explaining the importance of the job, increasing responsibility, motivating through competition, and persisting in efforts, were sufficiently covered by other items that they might be omitted from the forms without affecting the accuracy of the evaluation.

The suggestions for changes in the scaling of items ranged from adding additional degrees of effectiveness for all items to reducing the number of degrees to two. Suggestions for changes in the position of descriptions along particular scales were most important since they indicated that different interpretations were made of these descriptions than were intended. Fortunately, these suggestions were all confined only to a few descriptions. Several officers thought that the use of the word "failed" should be confined to descriptions of the most ineffective officers.

In addition to suggestions pertaining to the tentative forms, there was a number of expressions of preference for the adoption of the procedure either as it was tested in the first phase or in the second. Many of those expressing a preference for the single record of the first phase indicated that if the use of the workbook as a record of frequent observations were optional, or if the frequency of recording were left to the discretion of the reporting officer, they would be glad to use the workbook in that manner as much as possible. Officers expressing a preference for the procedure as used in the second phase commented upon the confidence the record of frequent observations gave them in filling out what they considered an accurate and impartial Report of Officer Effectiveness.

The main goal in the analysis of the comment sheets, however, was to find out whether the officers who had used the procedure in the tryout were favorably or unfavorably impressed with it as a practical way to evaluate officers in the Air Force. Ninety-two percent of the comment sheets could be classified according to the over-all reaction expressed toward the procedure. Of these, 81% were favorable and 19% were unfavorable. It was possible to subdivide the unfavorable group into those officers who completely rejected the procedure and those who, though generally unfavorable, made suggestions for the improvement of the tentative forms or expressed a dislike for only one of the two ways the procedure was tested in the tryout. When this was done, it was found that only 8% of the officers completely rejected the procedure.

While making this analysis for the reaction of officers to the procedure, it was noticed that a large number of officers compared the procedure with different types of officer efficiency reports which they had used. This was done by 316 officers or 41% of those

sending in comment sheets. Figure IV illustrates the proportion of this group who thought the procedure was better, no better, or worse than efficiency reports with which it was compared.

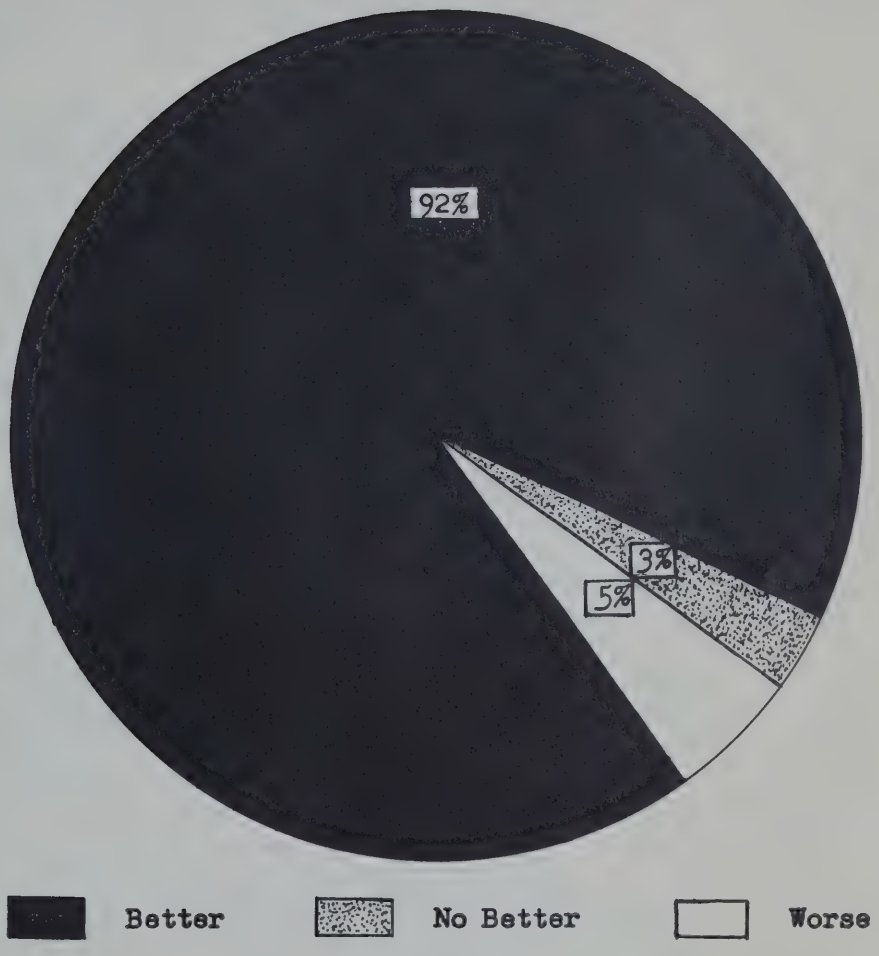

FIGURE IV. COMPARISON OF PROCEDURE WITH TYPES OF EFFICIENCY REPORTS BY 316 OFFICERS, FIELD TRYOUT, 1948.

Summary

An officer evaluation procedure was developed which measured how well the individual performed the important functions of an officer in the United States Air Force of today. To determine which functions were the important ones, research was conducted on the critical requirements of the job of an Air Force officer. Critical requirements of any job are those required ways of acting which have been the determining factors in the success or failure of a significant number of individuals on that job. In the Air Force, the critical requirements were those ways of performing which had "made the difference" between being judged an effective officer or an ineffective officer by others in the organization.

An extensive list of critical requirements was found by an analysis of over three thousand descriptive incidents of how effective or ineffective officers had acted in particular military situations. These incidents were obtained through field interviews with 640 officers. By classifying these incidents according to their common themes, it was possible to reduce the thousands of different ways of acting to seventy-seven descriptions of the way effective officers perform those crucial, and hence important, functions responsible for the success or failure of officers in the recent past. These seventy-seven critical requirements were further reduced in number by combining closely related types of effective officer behavior.

The evaluation procedure which was developed was based on these critical requirements. Fundamentally, it consisted of matching the behavior or performance of the individual officer with descriptions of how other officers had acted when meeting or failing to meet the critical requirements. These different descriptions were placed along 58 different scales in a check list of critical requirements for officer evaluation. This check list was used by evaluating or reporting officers in matching the performances of the officers they were evaluating with the descriptions along the scales. These scales were grouped in the check list according to headings or areas of effectiveness corresponding to the main proficiencies and responsibilities of officers. By assigning numerical values to the different descriptions along the scales, it was possible to arrive at a numerical score for the demonstrated effectiveness of an officer in each of these areas or for all the areas combined. For administrative purposes as well as comparative purposes, all such scores were converted into standard or stanine scores which placed the individual being evaluated into one of nine groups with other officers of similar effectiveness.

The inherent flexibility of the procedure for its use in several different ways and under a number of different conditions was emphasized in the construction of tentative forms. Provision was made for reporting officers to render partial reports when necessary which would not affect the comparative standings among other officers of those so evaluated. This was done by basing the stanine score on only those items in the reports which have been observed. "Unobserved" or "unknown"

ratings did not lower the stanine scores. Further flexibility was achieved by separating the formal report of officer effectiveness from the check list by which observed performances were matched with descriptions of effective and ineffective behavior. By this separation, the procedure could be used as a single record of effectiveness if time and conditions necessitated the filling out of the formal report by only a single matching of the characteristic way an officer had been observed to act during a reporting period. If, on the other hand, conditions permitted a more systematic approach, the check list could be used to record the many different performances on a number of different tasks throughout the entire reporting period and furnish evidence for making a final report which would cover all these different performances.

The practicality of the procedure was demonstrated both by the favorable reception to its use in an extensive field tryout of the tentative forms and by a statistical analysis of the evaluations of over two thousand probationary officers in that tryout. A number of the officers using the procedure in the tryout indicated a preference for the procedure as a single record although many of these officers stated in their comments that if they were not required to evaluate too many officers during a reporting period or if the recording of observations of different performances were optional, they would prefer that method. From a statistical point-of-view, both methods of applying the procedure seemed to have worked equally well during the tryout; however, this statistical finding should not be taken as conclusive since both methods were not given tryouts of equal length. By either method, nevertheless, accurate and usable evaluations of officer effectiveness were obtained.

The simplicity and flexibility of the procedure, the comprehensiveness of its coverage of the important job requirements, and the favorable opinions expressed by an overwhelming majority of officers participating in its field tryout, all point to the successful operation of the procedure as a method to evaluate officer personnel.

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